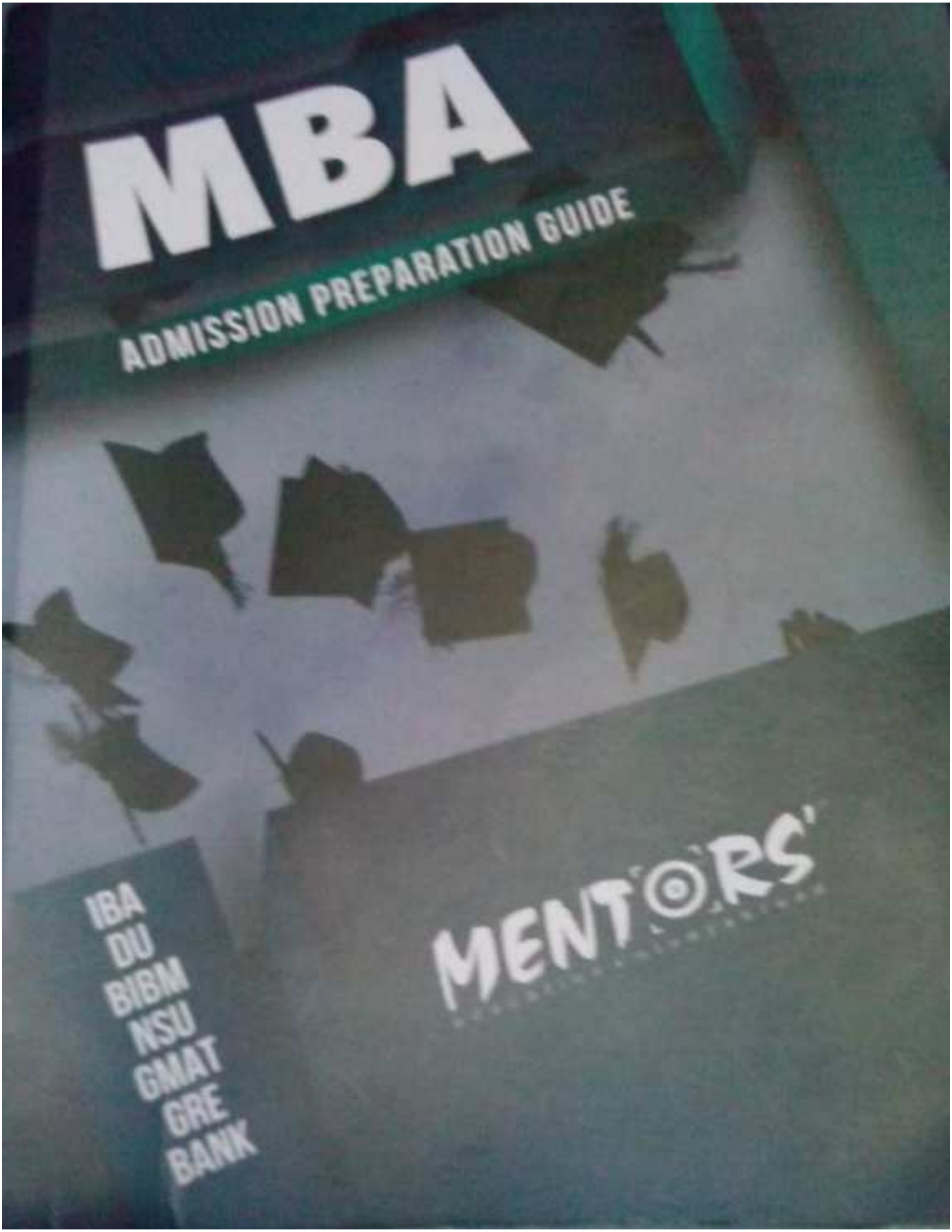
MBA
ADMISSION PREPARATION GUIDE
IBA
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MBA ADMISSION TEST PREPARATION GUIDE
also helpful for other institutes

This Book Contains

A comprehensive Vocabulary List (2500 words with synonyms, Bengali meaning and antonyms)
Detailed discussion on each Test-relevant subject area
01 Diagnostic test with answers
13 Real Questions of IBA with solutions
04 Executive MBA Admission Test Question with answers

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অতুল বুকস্

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ফোন : ০১৭২০-৯৫৭৭২৮, ০১৯১১ ১৮২ ৮৮৪

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Preface

MENTORS' এর পক্ষ থেকে সবাইকে শুভেচ্ছা। IBA তে MBA ডিগ্রী নেবার স্বপ্ন প্রতিটি উচ্চাকাঙ্খী মেধাবী শিক্ষার্থীর। মেধাবীদের স্বপ্ন পূরণে এটি একটি অনন্য বই।

ব্যবসায় প্রশাসন বিষয়টি সারা বিশ্বেই এখন প্রধান বিষয়। সকল মেধাবী Career Oriented People ব্যবসায় প্রশাসন degree নিতে সর্বদাই অধীর আগ্রহী। দেশের সেরা শিক্ষা প্রতিষ্ঠান হিসাবে শিক্ষার্থীদের পছন্দের তালিকার শীর্ষে রয়েছে IBA (DU)। আসন সংখ্যা সীমিত হবার কারণে কখনো কখনো অনেক মেধাবী শিক্ষার্থীও এখানে ভর্তির সুযোগ থেকে বঞ্চিত হতে পারে। IBA ছাড়াও ব্যবসায় প্রশাসন ডিগ্রীর জন্য দেশে রয়েছে বেশ কিছু Private ও স্বায়ত্বশাসিত প্রতিষ্ঠান যাদের যথেষ্ট সুনাম রয়েছে দেশে ও বিদেশে। Option হিসেবে EMBA, NSU, BUP, BIBM ও বেছে নেয়া যেতে পারে।

সকল ভালো শিক্ষা প্রতিষ্ঠানের MBA ভর্তি পরীক্ষার syllabus প্রায় একই ধরণের। সুতরাং এই একটি বই থেকেই পরীক্ষার্থীরা সমস্ত বিশ্ববিদ্যালয়গুলোর MBA ভর্তি পরীক্ষার ধারণা পাবে।

IBA তে দু'ধরনের MBA program আছে, Regular ও Executive MBA. Regular MBA তে বছরে দু'বার (June, Dec) এবং Executive MBA তে বছরে তিনবার (April-May, Aug-Sep, Dec-Jan) পরীক্ষা হয়। সাধারণত Regular MBA এর Day Section 2 years এ এবং Evening Section 3.5 years এ Complete হয়। এক্ষেত্রে কোন ছাত্র যদি withdrawal নিতে চায়, তাহলে সর্বোচ্চ 7 (seven) বছরে শেষ করতে হবে। এখানে মোট 60 Credit course করতে হয়। Executive MBA মূলত Senior Level Manager দের জন্য। 45 credit এর এই Course টি 2-7 years এ শেষ করতে হয়।

সাধারনত IBA (MBA) তে ভর্তি পরীক্ষায় তিনটি সেকশন থাকে। ইংরেজী, অংক ও এনালাইটিক্যাল এবিলিটি। ইংরেজীতে সাধারণ গ্রামারের পাশাপাশি Sentence Completion, Vocabulary, Reading Comprehension, Analogy, Written Essay ইত্যাদি থাকে। অংকে থাকে Basic Algebra, Arithmetic ও Geometry। মূলত ভর্তি পরীক্ষায় HSC level এর English এবং SSC level এর mathematics থাকে। Analytical হচ্ছে English এবং Mathematics এর সমন্বয় যাতে পরীক্ষার্থীদের General IQ ও এর Basic Aptitude এর Test নেওয়া হয়। ভর্তি পরীক্ষায় উত্তীর্ণ হতে হলে পরীক্ষার্থীকে প্রতিটি section এ নূন্যতম 40%- 60% marks পেতে হবে। সাধারণত overall 70% নম্বর পেলে written test এ উত্তীর্ণ হওয়া যাবে। Written test এ উত্তীর্ণদের Viva পরীক্ষা নেওয়া হয়। Viva-য় সাধারণত শিক্ষার্থীর Physical Appearance, Intelligence, Subject Knowledge ইত্যাদি দেখা হয়। এখানে সঠিক ইংরেজীতে কথা বলাও একটি গুরুত্বপূর্ন বিষয়।

আজকাল ভর্তি পরীক্ষা ছাড়াও বিভিন্ন Multinational Corporation, Bank, Bima, National Private Company গুলোর recruitment পরীক্ষার ধরণও IBA-র ভর্তি পরীক্ষার মতো। চাকুরী প্রার্থীদের জন্যও Guide টি একটি সহায়ক গ্রন্থ হবে।

প্রতি বছরই Guide টির পরিমার্জন, সংযোজন ও পরিবর্তন করা হয়। শুরু থেকেই MENTORS'এর অনেক শিক্ষক Guide এর লেখক হিসাবে কাজ করছে। রুমী (BBA 4th batch, IBA, বর্তমানে ইংল্যান্ডে Job করছে), বিদিত (BBA 4th batch, MBA, UK) এ দুজনের কথা না বললেই নয়। Guide এর শুরুটা এ দু'জন করে। Guide টিকে পরিবর্ধিত রূপ দেয় Iftekhar (MBA 39th batch, HSBC তে কর্মরত), Safwat (BBA 6th batch, MBA 39th Batch, BAT তে কর্মরত), Monjur (BBA 6th batch, MBA 38th batch, Standard Charted Bank এ কর্মরত), Isa Mahmud Shuvo (MBA 39th Batch, Dhaka Bank এ কর্মরত), Shafquat Ahmed (BBA16th batch, BAT-তে কর্মরত), Saimon (MBA 42nd batch, US Embassy Public Affairs এ কর্মরত), Shuvro (MBA 45th batch, IBA).

সর্বশেষ এই Guide টির ব্যাপক পরিবর্তন, পরিমার্জন ও সংযোজন করে Riyad (MBA 45th batch, IBA). এজন্য তার একক প্রচেষ্টা ও অবদান অনস্বীকার্য।

সবকিছুর পরেও Guide টিতে কিছু ভুল ত্রুটি থাকা অসম্ভব নয়। বইটির উন্নতির জন্য আমরা যে কোন Suggestion সানন্দে গ্রহন করবো। বইটি পড়ে শিক্ষার্থীদের কোন সংশয় থাকলে আমাদের সাথে যোগাযোগ করতে পারেন।
সবার ভবিষ্যত সুন্দর হউক।

MENTORS' Family

Executive MBA

Applicant Eligibility

Job Experience

Minimum 3 years' professional work experience.

Academic Qualifications

- *Minimum 2 years' Bachelors Degree (any discipline) or equivalent Professional Certification.*
- *At least a 2nd Class or CGPA of 2.5 (4.0 basis) in the Bachelors Program.*

For all certificates, equivalence will be determined by the Institute.

Admission Test

Applicants will be required to sit for an admission test, which is administered by IBA in Dhaka. The Admission Test will evaluate the applicant's aptitude in the following two areas:

1. *Language and Communication*
2. *Analytical ability*

To qualify in the Admission Test an applicant must obtain minimum qualifying marks in each area.

The application may be downloaded from the IBA website (www.iba-du.edu) and printed out on separate pages, or collected FREE from the IBA Executive MBA Program Office. The form may also be obtained by mail from the Program Office by sending a self -addressed envelope (10"x8") with a postage stamp of Tk.50.00.

The filled-in application form along with a Bank Draft / Pay Order for Tk.1500, payable to ***"Executive MBA, IBA",*** *should be submitted to the Executive MBA Program Office between 9:00 a.m. and 8:00 p.m.*

Further information may be obtained from EMBA Program Office, IBA, University of Dhaka, Dhaka-1000.

Exemption for GMAT

Applicants with foreign degrees, who have a score of at least 550 in GMAT with minimum 45 percentile in verbal and 50 percentile in quantitative may be exempted from taking the written admission exam. However, they will be required to appear at the interview.

Interview

Applicants will be selected for interview on the basis of their performance in the Admission Test.

SUBJECT AREAS TO BE COVERED

1. ***LANGUAGE AND COMMUNICATION:*** *This section will test your proficiency in English Language. Grammatical Questions, Vocabulary, Analogy, Sentence Completion, Reading comprehension etc. are the elements of this section. You need to go through TOEFL, GRE, GMAT etc. to get good marks in this section.*

2. ***MATHEMATICS:*** *This section will test your basic concept of mathematics. There can be Arithmetic, Algebraic, and Geometric questions. Basically the questions will follow the standard of SAT-1 and GMAT.*

3. ***ANALYTICAL ABILITY:*** *This section will test your aptitude and reasoning ability. Critical reasoning, puzzle questions, data sufficiency, and IQ questions are parts of this section. The questions will follow the standard of GRE and GMAT.*

4. ***WRITTEN ENGLISH:*** *This section will test your ability to write English in a proper way. Essays, paragraphs, thematic writing, sentence re-writing, argument writing, dialogue writing etc. are the elements of this section.*

Marks Distribution (Tentative) for IBA admission Test

Language & communication	*30 questions*	*30 marks*
Mathematics	*30 questions*	*30 marks*
Analytical Ability	*15-30 questions*	*15-30 marks*
Written English	*2- 3 types*	*20-25 marks*

5. ***VIVA:*** *If one is qualified in the written part, there will be an interview to test his/her English Communication skills, subject knowledge and potential of becoming a business execuitve.*

Questions for other institutes will be based on the same syllabus, but the mark distribution pattern may vary. See the questions of other institutes to get the idea of the question patterns.

MENTORS' MBA ADMISSION TEST PREPARATION PLAN

MENTORS' is the most reputed educational institution and admission consulting house dedicated to prepare students in their admissions, standardized tests, and academic studies. It's a student-focused institution that offers vibrant and inspirational learning environment. A number of students get into IBA and other institutes each year with the help of our high-powered course module. We share the pride of our students, as we have done something for them.

Program Module:

Language and Communication	**: 17 classes**
Mathematics	**: 17 classes**
Analytical Ability	**: 7 classes**
Model Tests	**: 20 tests**
(Solution Class on Model Tests)	**: 5 classes**

✓ **5 to 10 model tests for EMBA (DU) Program.**

Program Structure:

- ✓ **2 hours per class.**
- ✓ **Weekly 3 days of classes in 3 available timing.**
  - **Morning session**
  - **Afternoon session**
  - **Evening session**

Special Features of our Program:

- ✓ **Everyday exams on the previous lectures;**
- ✓ **All teachers are MBA students of IBA with long teaching experience;**
- ✓ **Everyday lecture sheets;**
- ✓ **Special review classes for weak students.**

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Chapter 1
Judge Yourself

Diagnostic Test

Total Time : 120 Minutes

(90 minutes for MCQ part)

এই বইটি পড়া শুরু করার পূর্বে আপনার জানা উচিত হবে MBA এর ভর্তি পরীক্ষায় কি ধরণের প্রশ্ন আসে। পরীক্ষার প্রশ্নের ধারা সম্বন্ধে আপনাকে ধারণা দেওয়ার জন্য এই Diagnostic Test অন্তর্ভুক্ত করা হয়েছে। এই Test টি দিলে আপনি বুঝতে পারবেন কি পরিমাণ সময় কোন অংশে ব্যয় করতে হবে। একই সাথে আপনি আপনার সবল ও দুর্বল দিকগুলো ভালভাবে বুঝতে পারবেন।

Section I: LANGUAGE AND COMMUNICATION

30 Questions **30 Marks**

Direction: Read the following comprehension carefully and answer the questions it follows.

The microbe hunters dominated the first two decades of this century. These hunters had tracked down one after another of the microbes responsible for the most dreaded scourges of many centuries: tuberculosis, cholera, and diphtheria. But there remained some terrible diseases for which no microbe could be incriminated: scurvy, pellagra, rickets, and beriberi. Then it was discovered that these diseases were caused by the lack of vitamins, a trace substance in the diet. The diseases could be prevented or cured by consuming foods that contained the vitamins. So, in the decades of the 1920's and 1930's, nutrition became a science and the vitamin hunters replaced the microbe hunters.

In the 1940's and 1950's, biochemists strived to learn why each of the vitamins was essential for health. They discovered that key enzymes in metabolism depend on one or another of the vitamins as coenzymes to perform the chemistry that provides cells with energy for growth and function. Now, these enzyme hunters occupied center stage.

You are aware that a new breed of hunters who are tracking genes—the blueprints for each of the enzymes—and are discovering the defective genes that cause inherited diseases—diabetes, cystic fibrosis, has replaced the enzyme hunters. These gene hunters, or genetic engineers, use recombinant DNA technology to identify and clone genes and introduce them into bacterial cells and plants to create factories for the massive production of hormones and vaccines for medicine and for better crops for agriculture. Biotechnology has become a multibillion-dollar industry.

In view of the inexorable progress in science, we can expect that the gene hunters will be replaced in the spotlight. When and by whom? Which kind of hunter will dominate the scene in the last decade of our waning century and in the early decades of the next? I wonder whether the hunters who will occupy the spotlight will be neurobiologists who apply the techniques of the enzyme and gene hunters to the functions of the brain. What to call them? -The head hunters. I will return to them later.

1. What is the main topic of the passage?
   (A) The microbe hunters (B) The potential of genetic engineering
   (C) The progress of modern medical research (D) The discovery of enzymes

2. The word "incriminated" in line 4 is closest in meaning to
   (A) investigated (B) blamed (C)eliminated (D) produced

3. Which of the following can be cured by a change in diet?
   (A) Tuberculosis (B) Cholera (C) Cystic fibrosis (D) Pellagra

4. The word "strived" in line 8 is closest in meaning to
   (A) failed (B) tried (C) experimented (D) studied

5. How do vitamins influence health?
   (A) They are necessary for some enzymes to function
   (B) They protect the body from microbes.
   (C) They keep food from spoiling.
   (D) They are broken down by cells to produce energy.

6. In the third paragraph, the author compares cells that have been genetically altered by bio-technicians to
   (A) gardens (B) factories (C) hunters (D) spotlights

7. The phrase "occupy the spotlight" in line 21 is closest in meaning to
   (A) receive the most attention (B) go the furthest (C) conquer territory (D) lighten the load

8. The author implies that the most important medical research topic of the future will be
   (A) the functions of the brain (B) inherited diseases
   (C) the operation of vitamins (D) the structure of genes

9. Which of the following best describes the author's tone in the last paragraph of the passage?
   (A) Critical (B) Speculative (C) Appreciative (D) Emotional

10. With which of the following statements would the author be most likely to agree?
   (A) The focus of medical research will change in the next two decades.
   (B) Medical breakthroughs often depend on luck.
   (C) Medical research throughout the twentieth century has been dominated by microbe hunters.
   (D) Most diseases are caused by defective genes.

Direction : Find the proper synonym of the following words.

11. ***Neutralize***
a. entangle b. strengthen c. counteract d. combat e. converse
12. ***Insinuate***
a. destroy b. hint c. do wrong d. accuse e. release
13. ***Illicit***
a. unlawful b. overpowering c. ill-advised d. small-scale. e. unreadable
14. ***Benign***
a. contagious b. fatal c. ignorant d. kind e. decorative
15. ***Reverie***
a. abusive language b. love song c. backward d. daydream e. holy man
16. ***Apprehensive***
a. quiet b. firm c. curious d. sincere e. fearful
17. ***Fluctuate***
a. fall b. impede c. waver d. rise e. hasten
18. ***Auxiliary***
a. greedy b. well-proportioned c. self-governing d. military e. assisting
19. ***Facile***
a. extraordinary b. queer c. breakable d. easy e. impossible
20. ***Augment***
a. increase b. predict c. disclose d. challenge e. testify

Direction : Fill in the gaps with appropriate choices

21. _____ Boomers, New Yorker & Helvetia, Amit Prefers Boomers most.
A) From B) Among C) of D) Between
22. Riyad is probably _____
A) belonging to 45th batch of IBA B) one of the most popular guy in IBA hostel
C) going to have lunch with Galib D) does not ever comes late for his class.
23. Mr. Harry Potter is very _____ his daughter's education
A) concerning for B) concerned of C) concerned in D) concerned about
24. Auntu insisted that her scholastic record _____ Bill Clinton's.
A) was better or at least as good as B) at its least was as good as
C) was as good or better than D) was better than or at least as good as
25. The guy at the door made us _____ our identification card before we were allowed to enter the Juke-Box Concert.
A) showed B) showing C) show D) to show

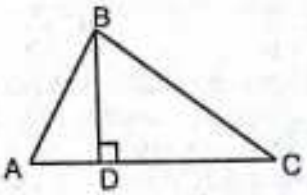
Direction: Detect the erroneous part of each of the following sentences

26. Sugar provides man (A) with quick energy, but (B) it has neither vitamins, minerals, and (C) other body-building (D) material.
27. Before baking a cake (A), you should (B) list, gather, and measure (C) the ingredients. No error (D)
28. Only by taking a balance (A) diet regularly (B), can Naomi lose some weight (C). No error (D)
29. When it comes (A) to Badminton, Sadat was so (B) good (C) as Raihan. No error. (D)
30. Kuntal managed (A) to jump out (B) of the window before the police could trace (C) where he was (D) hiding.

Section II: MATHEMATICS

30 Questions — **30 Marks**

1. Riyad purchased brand X pens for \$4.00 a piece and brand Y pens for \$2.80 a piece. If Riyad purchased a total of 12 of these pens for \$42.00, how many brand X pens did he purchase?
   A. 4 B. 5 C. 6 D. 7 E. 8
2. The population of a bacteria culture doubles every 2 minutes. Approximately how many minutes will it take for the population to grow from 1,000 to 500,000 bacteria?
   A. 10 B. 12 C. 14 D. 16 E. 18
3. If Auntu had twice the amount of money that she has, she would have exactly the amount necessary to buy 3 hamburgers at \$0.96 a piece and 2 milk shakes at \$1.28 a piece. How much money does Auntu have now?
   A. \$1.60 B. \$2.24 C. \$2.72 D. \$3.36 E. \$5.44
4. If a photocopier makes 2 copies in $\frac{1}{3}$ second, then at the same rate, how many copies does it make in 4 minutes?
   A. 360 B. 480 C. 576 D. 720 E. 1440
5. If m is an integer such that $(-2)^{2m} = 2^{9-m}$, then m =?
   A. 1 B. 2 C. 3 D. 4 E. 6
6. If $0 \le x \le 4$ and $y < 12$, which of the following CANNOT be the value of xy?
   A. –2 B. 0 C. 6 D. 24 E. 48
7. A straight pipe 1 yard in length was marked off in fourths and also in thirds. If the pipe was then cut into separate pieces at each of these markings, which of the following gives all the different lengths of the pieces, in fractions of a yard?
   A. $\frac{1}{6}$ & $\frac{1}{4}$ only B. $\frac{1}{4}$ & $\frac{1}{3}$ only C. $\frac{1}{6}, \frac{1}{4}$, & $\frac{1}{3}$ only D. $\frac{1}{12}, \frac{1}{6}$, & $\frac{1}{4}$ only E. $\frac{1}{12}, \frac{1}{6}$, & $\frac{1}{3}$ only
8. Today Rose is twice as old as Sam and Sam is 3 years younger than Tina. If Rose, Sam, and Tina are all alive 4 years from today, which of the following must be true on that day?
   I. Rose is twice as old as Sam II. Sam is 3 years younger than Tina III. Rose is older than Tina
   A. I only B. II only C. III only D. I and II E. II and III
9. A fruit-salad mixture consists of apples, peaches, and grapes in the ratio 6: 5: 2, respectively, by weight. If 39 pounds of the mixture is prepared, the mixture includes how many more pounds of apples than grapes?
   A. 15 B. 12 C. 9 D. 6 E. 4
10. A certain car increased its average speed by 5 miles per hour in each successive 5 minute interval after the first interval. If in the first 5 minute interval its average speed was 20 miles per hour, how many miles did the car travel in the third 5 minute interval?
    A. 1.0 B. 1.5 C. 2.0 D. 2.5 E. 3.0
11. In the figure, $\angle BAC = 45°$, BD = 4 cm and DC = 2AD. What is the length of the side AC in cm?



    A. 24 B. 18 C. 12
    D. 8 E. none of these
12. If the perimeter of a rectangular garden plot is 34 feet and its area is 60 square feet, what is the length of each of the longer sides?
    A. 5 ft B. 6ft C. 10 ft D. 12 ft E. 15 ft
13. Thirty percent of the members of a swimming club have passed the life-saving test. Among the members who have not passed the test, 12 have taken the preparatory course and 30 have not taken the course. How many members are there in the swimming club?
    A. 60 B. 80 C. 100 D. 120 E. 140

14. If a basketball team scores an average (arithmetic mean) of x points per game for n games and then scores y points in its next game, what is the team's average score for the n + 1 games?

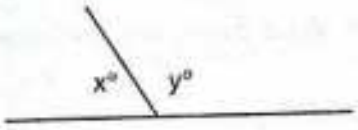
A. $\frac{nx+y}{n+1}$ B. $x+\frac{y}{n+1}$ C. $x+\frac{x}{n}$ D. $\frac{n(x+y)}{n+1}$ E. $\frac{x+ny}{n+1}$

15. An author received $0.80 in royalties for each of the first 100,000 copies of her book sold, and $0.60 in royalties for each additional copy sold. If she received a total of $260,000 in royalties, how many copies of her book were sold?

A. 130,000 B. 300,000 C. 380,000 D. 400,000 E. 420,000

16. Starting from Town S, Nayeem rode his bicycle 8 miles due east, 3 miles due south, 2 miles due west, and 11 miles due north, finally stopping at Town T. If the entire region is flat, what is the straight-line distance, in miles, between Towns S and T?

A. 10 B. $8\sqrt{2}$ C. $\sqrt{157}$ D. 14 E. 24



17. In the figure above, if $\frac{x}{x+y}=\frac{3}{8}$, then x =?

A. 60° B. 33.75° C. 67.50° D. 108° E. None of these

18. On 3 sales Johny has received commissions of $240, $80, and $110, and he has 1 additional sale pending. If Johny is to receive an average (arithmetic mean) commission of exactly $150 on the 4 sales, then the 4th commission must be:

A. $164 B. $170 C. $175 D. $182 E. $185

19. The annual budget of a certain college is to be shown on a circle graph. If the size of each sector of the graph is to be proportional to the amount of the budget it represents, how many degrees of the circle should be used to represent an item that is 15 percent of the budget?

A. 15° B. 36° C. 54° D. 90° E. 150°

20. If x * y = xy – 2(x + y) for all integers x and y, then 2 * (-3) =?

A. – 16 B. –11 C. – 4 D. 4 E. 16

21. A hiker walked for two days. On the second day the hiker walked 2 hours longer and at an average speed 1 mile per hour faster than he walked on the first day. If during the two days he walked a total of 64 miles and spent a total of 18 hours walking, what was his average speed on the first day?

A. 2 mph B. 3 mph C. 4 mph D. 5 mph E. 6 mph

22. The cost to rent a small bus for a trip is x dollars, which is to be shared equally among the people taking the trip. If 10 people take the trip rather than 16, how many more dollars, in terms of x, will it cost per person?

A. $\frac{x}{6}$ B. $\frac{x}{10}$ C. $\frac{x}{16}$ D. $\frac{3x}{40}$ E. $\frac{3x}{80}$

23. A certain electronic component is sold in boxes of 40 for $26.20 and in boxes of 20 for $13.20. A customer who needed only 40 components for a project had to buy 2 boxes of 20 because boxes of 40 were unavailable. How much more did the customer pay for each component due to the unavailability of the larger box?

A. $0.005 B. $0.01 C. $0.05 D. $0.20 E. None of these

24. In the equation kx + y = 16, k is a constant. If y = 6 when x = 2, what is the value of y when x = 4?

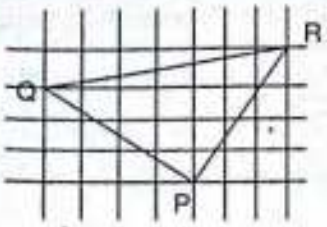
A. –8 B. –4 C. 11/4 D 5 E. 12

25. The greatest prime factor of 162 is:

A. 2 B. 3 C. 29 D. 31 E. 81

26. If the cost of x gallons of unleaded gasoline priced at $1.24 per gallon equals the cost of x + 2 gallons of regular gasoline priced at $1.16 per gallon, then x =?

A. 29 B. 24 C. 16.5 D. 14.5 E. 12



27. In the figure above, the grid consists of unit squares and P, Q, and R points of intersection of the grid as shown. What is the perimeter of triangular region PQR?
A. 15 B. 17 C. 20 D. $5 + 5\sqrt{2}$ E. $10 + 5\sqrt{2}$

28. If a and b are integers and $a - b = 6$, then $a + b$ CANNOT be
A. 0 B. less than 6 C. greater than 6 D. an even integer E. an odd integer

29. City Y has installed 30 parking meters at 15 foot intervals along a straight street. What is the number of feet between the first meter and the last meter?
A. 200 B. 420 C. 435 D. 450 E. 465

30. $11 \times 13 \times 15 \times 17 \times 19$
A decrease of 1 in which of the factors above would result in the greatest decrease in the product?
A. 11 B. 13 C. 15 D. 17 E. 19

Section III: ANALYTICAL ABILITY

15 Questions ***15 Marks***

Questions 1 – 5 are based on the following information:

Within an array there are four significant positions— positions I through 4. When the elements forming the array—R, S, T, and U—are stationary, there is one of them in each of the four positions. Periodically, there are reorderings of the elements in accordance with the following laws:

During each reordering, exactly one of the elements, the anchor, retains its position, and each of the other three elements moves to a new position.
Only R and U can be anchors.
U can be the anchor for any reordering only when it is in position 3 or position 4.
Any reordering anchored by U must be followed by a reordering anchored by R.
R can be the anchor in up to two consecutive reordering.
Any given array consists of the four elements in the order of their positions from 1 through 4.

1. If U R T S is an array and if exactly one reordering occurs, which of the following can be the array resulting from that reordering?
(A) R S T U (B) S R T U (C) S R U T
(D) T R U S (E) U S R T

2. If R T S U is an array and if exactly one reordering occurs, with the result that S is in position 1, which of the following must also be a result of that reordering?
(A) R is in position 3 (B) R is in position 4 (C) T is in position 2
(D) T is in position 3 (E) U is in position 3.

3. If R moves from position 4 to position 1 in the course of a reordering, which of the following can also occur in the course of that reordering?
(A) S moves from position 1 to position 2 (B) S moves from position 1 to position 3
(C) S moves from position 1 to position 4 (D) T moves from position 2 to position 3
(E) T moves from position 3 to position 2.

4. If the array U S T R has resulted from a reordering, and if exactly two additional reordering occur, with the result that S is again in position 2, which of the following must have been the array after the first of these two additional reorderings?
(A) STUR (B) T S U R (C) T U S R (D) U R S T (E) U T R S

5. If S R U T is an array and if exactly two reordering occur, the first anchored by R and the second anchored by U, which of the following must be true directly after the second of the two reordering?
(A) R is in position 1. (B) S is in position 1. (C) R is in position 2.
(D) T is in position 3. (E) U is in position 4.

6. "Some men are certainly tall, others are certainly not tall; but of intermediate men, we should say, 'tall'? Yes. I think so or no, I shouldn't be inclined to call him tall."
Which of the following most accurately reflects the intention of the writer of the above?
(A) Men intermediately tall, partake of "tallness" to a moderate degree.
(B) To call men tall who are not strikingly so must be to use the concept with undue imprecision.
(C) Every empirical concept has a degree of vagueness.
(D) There is really no need to be as indecisive as the writer of the above.
(E) Calling someone tall or short depends upon one's whim.

7. Average family income is right were it was 20 years ago, even though in most families these days, husbands and wives are working.
The above statement implies all of the following except:
A) Even though nominal family income may have increased, inflation has risen at an equal rate
B) More husbands and wives are working today than 20 years ago.
C) It was more prevalent for one spouse to work 20 years ago than today
D) Wives earn more than husbands today
E) The price level was lower 20 years ago

8. Every town with a pool hall has its share of unsavory characters. This is because the pool hall attracts gamblers and all gamblers are unsavory.
Which of the following cannot be inferred from the above?
A) All gamblers are unsavory
B) All pool halls attract gamblers
C) Every town has unsavory characters
D) All gamblers are attracted by pool halls
E) Some towns have pool halls

9. Over the last 20 years the rate of increase in total production in Work-land has been second to none in the world. However, the growth is more modest when calculated per capita of total population. Over the last ten years progress has been much slower.
If the information above is accurate, which of the following must be true?
(A) Work-land has a very large population.
(B) Productivity per capita has not grown as fast during the past ten years.
(C) Total production has increased faster than population growth.
(D) The birth rate has declined.
(E) The per capita production rate has not declined.

10. Between 1940 and 1945-gasoline consumption in the U.S. dropped about 35 percent because of wartime rationing. In the same period, lung cancer in U.S. white males declined by approximately the same percentage. Between 1914 and 1950, lung cancer mortality increased by nineteen percent and the rate of gasoline consumption increased at the same rate.
Which of the following facts, if true, would weaken the above argument?
(A) For each of the years between 1939 and 1949, lung cancer among urban blacks in the United States remained at the same level.
(B) The amount of lead in gasoline increased between 1916 and 1944
(C) After 1950 gasoline consumption jumped.
(D) During World War II, people suffering from cancer were forbidden to drive.
(E) Women first began driving in large numbers between 1941 and 1951

Questions 11 – 15 are based on the following information:

At IBA, there are exactly seven administrative officers — N, P, Q, R, S, T, and U. An officer can pass along any memo written by that officer as well as any memo received from others, but only according to the following rules:

Memo can be passed in either direction between P and Q, in either direction between R and U, and in either direction between S and T.

Memo can be passed from N to S, from Q to R, from S to P, from U to N, and from U to Q.

11. Which of the seven officers can pass memo directly to the greatest number of officers?
(A) U (B) Q (C) R (D) S (E) N

12. A memo from Q that eventually reaches T must have been passed to all of the following officers EXCEPT:
(A) N (B) P (C) R (D) S (E) U

13. A memo can travel along two alternative routes that have no officers in common except the writer and the final recipient if the writer and the final recipient, respectively, are
(A) P and R (B) P and T (C) Q and T (D) S and U (E) U and P

14. If a memo written by P is to reach S, and is to be passed to no more officers than necessary, it must be passed to a total of how many officers than P and S?
(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

15. If R is absent from the office for a day, it is still possible for a memo to be passed on that day all the way along a route from
(A) N to Q (B) P to S (C) P to U (D) Q to S (E) T to U

Section IV: WRITTEN ENGLISH

1. Rewrite the following sentences in concise form. **[2 × 5 = 10 marks]**

a. I've come early in order that I can talk to you.
b. There is a program tonight that you might like.
c. I wonder if you could help me for a few minutes.
d. The mist hung like a veil and obscured the top of the mountain.
e. There are several causes of malnutrition, one of which is vitamin deficiency.

2. Write a short essay on this topic – **Nuclear Technology** **[10 marks]**

Answer keys : Diagnostic Test

Section I: Language & Communication

1.C	2.B	3. D	4. B	5. A	6. B	7. A	8. A	9.B	10. A
11. C	12. B	13. A	14. D	15. D	16. E	17. C	18. E	19. D	20. A
21. B	22. C	23. D	24. D	25. C	26. C	27. D	28. A	29. B	30. A

Section II: Mathematics

1.D	2. E	3. C	4. E	5. C	6. E	7. D	8. B	9.B	10. D
11. C	12. D	13. A	14. A	15. D	16. A	17. C	18. B	19. C	20. C
21. B	22. E	23. A	24. B	25. B	26. A	27. E	28. E	29. C	30. A

Section III: Analytical Ability

1. C	2. D	3. A	4. A	5. E	6. C	7. D	8. C	9.B	10. A
11. A	12. B	13. E	14. D	15. A					

Section IV: Written English

1. Rewrite the following sentences in concise form

a. I've come early to talk to you.
b. You may like tonight's program.
c. Could you help me for a few minutes?
d. The veil like mist obscured the top of the mountain.
e. Vitamin deficiency is one of the causes of malnutrition.

2. Nuclear Technology

Many people are afraid of nuclear technology because of the dangers associated with its use. And belligerent (যুদ্ধংদেহী) leaders and terrorists (সন্ত্রাসী) may cause great human disaster by the use of nuclear weapons of mass-destruction. Though it is true that nuclear weapons pose the greatest threat to life, I personally support the use of nuclear technology for constructive (গঠনমূলক) purposes can bring human benefit.

The most worrying aspect (শংকার বিষয়) of nuclear technology is its use for military purposes by many high and mighty countries. Enough atomic bombs have already been made which are capable of completely destroying the planet. An increasing number of countries now have nuclear weapon or have the technology required to make such bombs, and there is an ongoing debate about how to control the threat of nuclear weapon. After the fall of Russia, many Russian scientists have found their nuclear technology expertise is in high demand in countries that have an ambition with nuclear technology. Many believe that, at that time, technology has been secretly made available to many aspiring countries like, Iraq, North Korea, India, Pakistan and others. Experts believe that nowadays, many confrontational (সংঘাতপ্রবন) countries and terrorist organizations have nuclear know how which they could use for terrorism and mass destruction. However, it would have been better if it had never been used to create nuclear weapons. If life on earth is to continue, we must control nuclear weapons of mass destruction

Nuclear power stations provide an important source of cheap power in many industrialized nations and some developing countries. Nuclear technology has been widely used in medical science. X-rays are widely used technology that helps medical diagnosis. Radio therapy is widely used to help cure some diseases such as cancer. Controlled and Measured radiation is applied on malignant (ক্ষতিকারক) cancerous cells to kill them or stop their spreading.

In conclusion, nuclear technology certainly has many positive uses and offers lots of promise. But we have to bear in mind that it is dangerous if not handled properly or goes in the wrong hands. Nuclear technology should be only used for the true benefit of the mankind. If we forget this, we have to take the responsibility of our own destiny.

Chapter 2
Language and Communication

- ⇨ Vocabulary
- ⇨ Analogy
- ⇨ Prefix-Suffix
- ⇨ Sentence Completion
- ⇨ Grammar
- ⇨ Reading Comprehension

Vocabulary

Vocabulary অর্থ শব্দ ভান্ডার বা শব্দসম্ভার। বর্তমান বিশ্বের প্রতিযোগিতামূলক জীবনের প্রতিটি ক্ষেত্রে Vocabulary এর গুরুত্ব অনস্বীকার্য। শুধু পরীক্ষায় ভাল করার জন্য নয়, Vocabulary এর প্রয়োজন আজ দৈনন্দিন জীবনের প্রতিটি ক্ষেত্রে। কোনভাবেই একে এড়িয়ে যাওয়ার উপায় নেই। তাই সবার প্রতি আমাদের পরামর্শ অত্যন্ত Structured পদ্ধতিতে এই বইয়ের Vocabulary list টি পড়ে ফেলুন এবং যত বেশি সম্ভব শব্দ মনে রাখার চেষ্টা করুন।

IBA এর Admission test এর Language and Communication (MCQ English) Section এর শতকরা প্রায় পঞ্চাশ ভাগ প্রশ্ন থাকে Vocabulary নির্ভর।এসব প্রশ্নের মধ্যে রয়েছে Synonyms (সমার্থক শব্দ), antonyms (বিপরীত শব্দ), analogy (একই সম্পর্কযুক্ত জোড়া শব্দ), Sentince completion(উপযুক্ত শব্দ দিয়ে শূন্যস্থান পূরন) ইত্যাদি। তাছাড়াও Reading comprehension বোঝার জন্য বা grammatical Questions এর অর্থ বোঝার জন্যও Vocabulary এর প্রয়োজন রয়েছে। Admission test এর Analytical Ability section এর কিছু কিছু প্রশ্নে নির্দিষ্ট কিছু শব্দের অর্থ জানা থাকলে উত্তর বের করা সহজতর হয়। Mathematics Section-এ questionpatternবোঝার জন্যও অনেক ক্ষেত্রে Vocabulary অত্যন্ত গুরুত্বপূর্ন। Vocabulary এর দক্ষতার উপর নির্ভর করে Written English section এর essay বা paragraph writing. অর্থাৎ পুরো পরীক্ষার প্রতিটি ক্ষেত্রেই Vocabulary এর গুরুত্ব অনুধাবন করা যায়।

Vocabulary কিভাবে উন্নত করবেন সে ব্যাপারে আমাদের কিছু Suggestion অবশ্যই রয়েছে। তবে একেকজনের শেখার পদ্ধতি একেকরকম হওয়াও বিচিত্র কিছু নয়। শুধু মনে রাখবেন Vocabulary Practice করতে হবে নির্দিষ্ট পদ্ধতিতে এবং অবশ্যই নিয়মিত। Vocabulary শেখার অন্যতম জনপ্রিয় পদ্ধতি হচ্ছে Flash cards. এই পদ্ধতিতে ছোট একটি কাগজের টুকরোর একদিকে অপরিচিত শব্দটি লিখে অন্যপাশে Synonyms (সমার্থক দুয়েকটি ইংরেজি শব্দ) এবং বাংলা অর্থ লিখতে হয়। এভাবে অনেকগুলো Flash cards তৈরী করতে হয়। তারপর কাগজের টুকরোগুলো একস্থানে নিয়ে (২০/২৫টি একত্রে) একটি stack তৈরী করতে হয়। stack টি পকেটে বা ব্যাগে রেখে অবসর সময়ে উল্টেপাল্টে দেখা যায়। পদ্ধতিটি কার্যকর সন্দেহ নেই। কিন্তু একই সাথে সময়সাপেক্ষ এবং কষ্টকরও বটে। যারা Long term plan নিয়ে Vocabulary শিখতে চায়, তাদের জন্য পদ্ধতিটি চমৎকার। কিন্তু যারা ৪/৫ মাস সময়ের মধ্যে নির্দিষ্ট একটি লক্ষ্য মাথায় রেখে Vocabulary শিখতে চায় তাদের জন্য আমারা বিকল্প একটি পদ্ধতি suggest করতে পারি।

এই বিকল্প পদ্ধতিতে একটি প্যাডের কাগজ নিয়ে কাগজের একপাশে ১০টি অপরিচিত ইংরেজি শব্দ লিখতে হবে। অপর পাশে serial অনুযায়ী synonyms এবং বাংলা অর্থ লিখতে হবে। এভাবে ৬ দিন ৬টি আলাদা কাগজের Vocabulary শিখে ফেলতে হবে এবং সপ্তম দিন আগের ৬টি কাগজের ৬০টি শব্দ revision দিতে হবে। এভাবে প্রতি সপ্তাহে ৬০টি অপরিচিত শব্দ ২টি করে synonyms সহ আরো ১২০টি শব্দ = মোট ১৮০টি শব্দ, আনুমানিক ৫০টি common শব্দ =১৩০টি নতুন শব্দ শেখা সম্ভব। এই পদ্ধতিতে ১ মাস (৪ সপ্তাহে) ১৩০ X ৪ = ৫২০ টি এবং ৪ মাসে ৫২০ X ৪ = ২০৮০ টি নতুন শব্দ শেখা সম্ভব সহজেই।

এই বইতে একটি Vocabulary list দেয়া আছে। এই list টিতে প্রায় ২৫০০ টি শব্দ এবং synonym/ antomym সহ আরও প্রায় ৫০০০ শব্দ আছে। এই listথেকে random basis এ শব্দ বেছে নিয়ে আমাদের suggested পদ্ধতিতে Vocabulary শিখতে পারেন অথবা list থেকে সরাসরি পড়তে পারেন।

N.B. Many of the words do not have an antonym in the list as there is no suitable one.

Reference Books:

Oxford Dictionary of Synonyms & Antonyms
Barron's GRE
Barron's SAT

Vocabulary List

Word	Synonyms	Bengali meaning	Antonyms
Alien (adj)	unfamiliar, strange, foreign	বহিরাগত, পরদেশী	familiar
Alienate (Vt)	estrange, disaffect	নিরাসক্ত করা, চটানো	involve
Allege (V)	declare, profess, assert	অভিযোগ করা	deny
Allegiance (N)	loyalty, fidelity, commitment	কর্তব্য নিষ্ঠা, আনুগত্য	disloyalty
Allegory (N)	fable, metaphor	রূপক বর্ননা , প্রতীকাশ্রয়ী কাহিনী	
Alleviate (vt)	mitigate, pacify, soothe	লাঘব করা, উপশম করা	aggravate
Alliance (n)	Association, coalition	মৈত্রী	seperated
Allocate (vt)	assign, distribute	ভাগ করে দেয়া, বন্টন	
Allude (Vi)	refer, imply	পরোক্ষভাবে উলেখ করা, ইঙ্গিত করা	
Allure (vt)	attract, fascinate, captivate	প্রলুব্ধ করা, মুগ্ধ করা	
Allusion (n).	Quotation, reference	পরোক্ষ উল্লেখ	
Ally (n).	alliance, league, align	সহযোগী মিত্র	enemy
Alter (v)	change, vary, modify	পরিবর্তন করা	maintain
Alternate (n)	substitute, switch, rotate	পর্যায়ক্রমে, পালা করে	
Alternative (n)	option, another, choice	পরস্পর পরিবর্তন সাপেক্ষ	
Altruism (n)	philanthropy, unselfishness	পরার্থবাদ, পরহিতব্রত	selfishness
Amalgamate (vt)	combine, incorporate, merge	যুক্ত করা, মিলিত করা	seperate
Amass (vt)	accumulate, collect	রাশীকৃত বা পুঞ্জিভূত করা	distribute
Amateur (adj)	nonprofessional, unpaid	অপেশাদার, আনাড়ি	professional
Ambiguous (adj)	vague, equivocal, uncertain	দ্ব্যর্থক, অনিশ্চিত অর্থ	clear
Ambitious (adj)	aspiring, determined	উচ্চাকাঙ্খী, উচ্চাভিলাসী	unmotivated
Amenable (adj)	agreeable, acquiescent	প্রতিবেদনশীল, বাধ্য	unwilling
Amend (vt)	revise, rectify, alter	উন্নত হওয়া, উন্নতিসাধন করা	worsen
Amiable (adj)	congenial, affable, sociable	ত্রুটি সংশোধন করা	disagreeable
Amicable (adj)	friendly, harmonious	শান্তিপূর্ন, বন্ধুত্বপূর্ন	disagreeable
Ample (adj)	plenty, sufficient	পর্যাপ্ত পরিমান	Insufficient, lacking
Amplify (v)	intensify, enlarge, augment	প্রশস্ততর বা পুর্নতর হওয়া	reduce
Analogous (adj)	similar, corresponding	অনুরূপ, সদৃশ	different
Anecdote (n)	story, tale, yarn	বাস্তব কোন ব্যক্তি বা ঘটনা সম্পর্কে সংক্ষিপ্ত কাহিনী	
Anguish (n)	suffering, torment, agony	নিদারুন যন্ত্রনা	content
Animated (adj)	lively, vivacious, energetic	জীবন্ত, সজীব, প্রানবন্ত	lifeless
Annex (Vt)	take possession of, seize	অধিকার করা, যুক্ত করা	surrender
Annihilate (Vt)	destroy, vanish, extinguish	নিশ্চিহ্ন করা, সম্পুর্নরূপে ধবংস করা	protect
Annotate (Vt)	gloss, note, interpret	টীকা রচনা করা বা যোগ করা	
Annoy (Vt)	irritate, vex, aggravate	অসন্তোষ করা, জ্বালাতন করা	please
Annul (v)	cancel, abolish, repeal	আইন বা চুক্তি বাতিল বা রদ করা অর্কাযকর ঘোষনা	prolong

Anomalous (adj)	irregular, abnormal, strange	ব্যতিক্রমী	usual
Anomaly (n)	exception	অস্বাভাবিক বা ব্যতিক্রমী বস্তু	usual
Anonymous (adj)	unknown, unnamed	নামহীন, অপ্রকাশিত নাম	distinguished
Antagonism (N)	opposition, hostility, enmity	সক্রিয় বিরোধীতা	coopeartion
Antagonist (N)	opponent, rival, adversary	প্রতিদ্বন্দ্বী, প্রতিপক্ষ	friend
Antique (adj)	archaic, obsolete, outdated	প্রাচীন কাল থেকে বিদ্যমান, অতীতের নিদর্শন	new
Antiquity (n)	ancient times	প্রাচীন কাল, মহৎ যুগ	
Anxious (adj)	worried, concerned, eager	উদ্বিগ্ন, চিন্তিত	relaxed
Apathetic (adj)	Indifferent, listless, droopy	সমবেদনা বা আগ্রহহীন, উদাসীন	energetic
Aperture (n)	Opening, hole, gap	রন্ধ্র, ফাঁক, ছিদ্র	
Apex (n)	acme, summit, zenith, peak	শীর্ষবিন্দু, উচ্চতম বিন্দু	base
Apologize (vt)	saying sorry, express regret	দুঃখ প্রকাশ করা	
Apparel (n)	attire, garment	পোষাক, আবরন	
Appeal (vi/n)	plea,beseech, implore	সনির্বন্ধ আবেদন করা	
Applaud (Vt.)	acclaim, clap	করতালি দিয়ে অভিনন্দন	boo
Appraise (Vt)	estimate, evaluate, assess	মূল্য নির্ধারন করা, যোগ্যতা নিরূপন করা	
Appreciate (Vt)	welcome, be grateful for	সঠিক মূল্যায়ন করা, প্রভূত মূল্য দেয়া	
Apprehend (Vt)	fear; capture, detain	বুঝতে পারা, আশঙ্কা করা, ধরে রাখা	
Apprehension (n)	worry, anxiety	উপলব্ধি, চেতনা বোধ	confidence
Apprentice (n)	disciple, trainee, learner	শিক্ষানবিশ	
Appropriate (adj)	proper, suitable, fitting	যথাযথ, যথোচিত মানান সই	inappropriate
Apt (adj)	appropriate, suitable	তীক্ষ্ণ বুদ্ধি, তীক্ষ্নধী	inappropriate
Aptitude (n)	talent, knack, ability	প্রবনতা, স্বাভাবিক বা অর্জিত ক্ষমতা	inability
Arable (adj)	farmable, fruitful	চাষযোগ্য	fruitless
Arbitration (n)	negotiation, adjudication	সালিশ নিস্পত্তি, মধ্যস্থতা করা	
Arbitrator (n)	mediator, arbiter, judge	মধ্যস্থতাকারী, নিস্পত্তি কারী	
Archaic (adj)	old, ancient, dated	অপ্রচালিত শব্দ	modern
Ardent (adj)	passionate, enthusiastic, fervent, zealous	অতিশয় আকুল, অত্যন্ত উৎসাহী	halfhearted
Ardor (n)	enthusiasm, passion, love	আকুলতা উৎসাহ	indifference
Arduous (adj)	strenuous, difficult, hard	দুঃসাধ্য, কষ্টকর	easy
Arid (adj)	barren, infertile, dry, parched	অনুর্বর, শুষ্ক, বৃষ্টিপাতহীন	humid
Aristocrat (n)	noble, peer of the realm	অভিজাত শ্রেনীর লোক	common people
Armament (n)	guard, munitions, shield	সামরিক বাহিনী ও যুদ্ধাস্ত্র	
Armor (n)	protective covering, shield	বর্ম, ধাতব আচ্ছাদন	
Aroma (n)	fragrance, scent, perfume	সৌরভ, সুগন্ধ	bad smell
Arouse (vt)	awake, evoke, stimulate	উদ্রেক করা, জাগানো	dampen
Array (vt)	order, display, collection	যুদ্ধের জন্য বিন্যস্ত করা	
Arrogance (n)	Conceit, haughtyness	ঔদ্ধত্য	humility
Arrogant (adj)	haughty, disdainful	উদ্ধত	humble
Article (n)	piece of writing, editorial		
Ascend (vi)	climb, rise, soar	আরোহন করা, চড়া	descend
Ascent (n)	climb, rise	আরোহন, সমুত্থান	descent

Ascertain (vt)	determine, make sure	নিশ্চিত করা, নির্ধারন করা	hedonistic
Ascetic (adj)	austere, rigorous, strict	কৃচ্ছ্রব্রতী কঠোর তপস্বী	
Aspect (n)	facet, feature, characteristic	রূপ, চেহারা, মুখাবয়ব	compliment
Asperse (vt)	slander, malign, insult	কুৎসা, কটাক্ষ	compliment, praise
Aspersion (n)	insult	কুৎসা করা, কটাক্ষ করা	aimless
Aspiration (n)	avidity, ambition, goal	আকাঙ্খা, উচ্চাকাঙ্খা	
Aspire (vi)	crave, yearn, seek, aim	উচ্চাভিলাষী হওয়া	protect
Assail (vt)	attack, assault	প্রচন্ড আঘাত হানা, জর্জরিত করা	
Assassin (n)	killer, murderer, hired gun	গুপ্তঘাতক, আততায়ী	
Assassinate (vt)	kill, shoot, gun down	গোপনে হত্যা করা	
Assault (vt. n.)	attack, assail, mugging	আকস্মিক আঘাত	disband
Assemble (vt)	gather, congregate, collect	সমবেত হওয়া, মিলিত হওয়া	
Assembly (n)	congregation, meeting	সভা, সম্মেলন, সমাবেশ	deny
Assert (vt)	declare, state, avow	দাবী করা, ঘোষনা করা	
Assess (vt)	estimate, evaluate, review	স্থির করা, ধার্য করা	lazy
Assiduous (adj)	diligent, industrious	অধ্যবসায়ী, নিষ্ঠাবান	
Assign (vt)	allot, distribute, dispense	বরাদ্দকরা, স্থিরকরা, ধার্য করা	reject
Assimilate (vt)	absorb, incorporate, take in	শোষন করা, অঙ্গীভূত করা	hinder
Assist (vt)	aid, help, support	সাহায্য বা সহযোগীতা করা	disconnected
Associate (v)	unite, combine, partner	সংশিষ্ট, সংযুক্ত, জড়িত করা	aggravate
Assuage (vt)	alleviate, mitigate, soothe	প্রশমিত করা, উপশম করা	
Astonish (vt)	surprise, astound	বিস্ময় বিহ্বল করা, চমৎকৃত করা	
Astonished (adj)	surprised, amazed	বিস্ময় বিহ্বল, চমৎকৃত	
Astound (vt.)	surprise, astonish	বিস্ময়ে অভিভূত বা স্তম্ভিত করা	
Astute (adj)	shrewd, canny, smart	বিচক্ষন, চতুর	stupid
Atheism (n)	non-belief, scepticism	নিরীশ্বরবাদ, নাস্তিক্য	faith
Attainment (n)	accomplishment, achievement	অর্জন, সিদ্ধি, প্রাপ্তি	failure
Attend (vt)	join, be present at	মনোনিবেশ করা	miss
Attendant (n)	waiter, assistant	অনুচর, সহচর	
Attribute (n)	characteristic, quality, trait	স্বাভাবিক গুন বা ধর্ম	
Attrition (n)	wear and tear, abrasion	ঘর্ষন জনিত, ক্ষয়	
Audition (n)	test, trial	কণ্ঠস্বর পরীক্ষন	
Auditor (n)	assessor, examiner	শ্রোতা, হিসাবনিরীক্ষক	
Augment (vt)	enlarge, increase	বাড়া, বৃদ্ধিপাওয়া, সমৃদ্ধ করা	diminish
Aura (n)	atmosphere, mood, feeling	আলৌকিক আভা, সুক্ষ্মতা	
Auspicious (adj)	promising, favorable	শুভ, অনুকুল, মাঙ্গলিক	inauspicious
Austerity (n)	severity, strictness	কঠোরতা, কঠিন্য, নির্মম নীতি পরায়নতা	gentleness
Authentic (adj)	genuine, real, bonafide	খাঁটি, প্রকৃত, যথার্থ	fake, counterfeit
Authoritative (adj)	reliable, trustworthy		unreliable
Authorize (vt)	empower, permit, approve	ক্ষমতা দান করা, ক্ষমতা দেওয়া	forbid
Autocrat (n)	dictator, tyrant	একনায়ক, স্বৈরশাসন	
Autonomy (n)	independence, sovereignity	স্বায়ত্বশাসন, স্বাতন্ত্র	dependence
Avalanche (n)	flood, rush, landslide	তুষারধ্বস, হিমপ্রপাত	

Avarice (n)	greed, lust, cupidity	ধনলিপ্সা, লালসা	generosity
Avaricious (adj)	greedy, rapacious	লোলুপ, লোভী	generous
Aversion (n)	dislike, distaste, hatred	বিরূপতা, অনীহা	liking
Avert (vt)	shift, prevent, avoid		
Aviator (n)	pilot	বৈমানিক	
Avid (adj)	eager, keen, greedy	উন্মুখ, উৎসুক, লোলুপ	lukewarm, apathetic
Avow (vt)	acknowledge, declare, admit, affirm, confirm	অঙ্গীকার করা, প্রকাশ্যে ঘোষনা করা, দোষস্বীকার করা	deny
Awe (n. / vt.)	reverence, veneration, dread	ত্রাস, সম্ভ্রম, আতঙ্ক	disdain
Awkward (adj)	clumsy, inept, embarrassed	বেমানান, বেঢপ, আনাড়ি	relaxed
Axis (N)	shaft, alliance	অক্ষ, অক্ষরেখা	
Bait (n)	lure, attraction	টোপ, প্রলোভনের বস্তু	repel
Bald (adj)	hairless, receding	টেকো, টাকবিশিষ্ট	
Balk (vt)	recoil, cringe, shy away	অন্তরায়, প্রতিবন্ধক	stand your position
Ballot (n)	vote, poll	উদ্গ্রহনপত্র, ব্যালট	
Balmy (adj)	refreshing, mild, temperate, moderate	স্নিগ্ধ, সুখস্পর্শ, উপশামক	wintry
Ban (vt)	prohibit, forbid, outlaw	নিষিদ্ধ ঘোষনা করা,	allow
Bandit (n)	robber, pirate	দস্যু, পথতস্কর	
Banish (vt)	exile, expel, deport	নির্বাসিত, বিতাড়িত হওয়া	
Bankruptcy (n)	Insolvency, ruin, liquidation	দেউলিয়া	
Banquet (n)	Feast, formal meal	ভোজ, সম্ভোজন	
Barbarian (n)	uncivilized	অসভ্য, বর্বর	civilized
Bare (v. Adj)	exposed, uncovered	অনাবৃত, খালি, উম্মোচিত	covered
Barely (adv.)	Merely, hardly, scarcely	রিক্তভাবে, নামমাত্র, স্বল্প	easily
Barren (adj)	infertile, arid, unproductive	অনুর্বর, উষর, নিষ্ফলা	fertile
Barrier (n)	obstacle, block, barricade	প্রতিবন্ধক	
Barter (n. Vt)	trade, exchange, switch	বিনিময়, অদলবদল করা	
Bashful (adj.)	coy, shy, timid	লাজুক, ব্রীড়াময়	forward
Bask (vt)	bathe, immerse, lie around	রোদ পোহানো, আগুন পোহানো	
Baste (vt.)	lash, beat, stitch, seam	প্রহার করা, পেটানো, টাক দেয়া কাপড়ে?	unpick
Batter (vt)	beat, hammer, assault	ভাঙা বা চূর্ন করার জন্য আঘাত করা	
Bear (vt)	carry, support, stand	বহন করা, থাকা, ভালুক	
Beat (adj)	exhausted, tired, worn out	বারবার আঘাত করা	lively
Beforehand (adv)	in advance, earlier	আগে, পূর্বে, আগে ভাগে	later, afterward
Beget (vt)	arise, bring about, cause	জন্ম দান করা, কোন কিছুর কারন হওয়া	
Begrudge (vt)	grudge, stint, envy	অসন্তুষ্ট বা বিদ্বেষপরায়ন হওয়া	like, admire
Beguile (vt)	lure, entice	আকর্ষন করা	repel
Belie (vt)	conceal, disprove	ভ্রান্ত বা অসত্য ধারনা দেয়া, প্রমান করতে অসমর্থ	
Believer (n)	Faithful, supporter, advocate	ঈমানদার, বিশ্বাসী	skeptic
Belittle (vt)	depreciate, despise, disparage	খর্ব করা, মূল্যমান হ্রাস করা	praise
Belligerent (adj)	hostile, aggressive	যুদ্ধরত, যুধ্যমান	peaceful,

			friendly
Benefactor (n)	sponsor, patron	জনহিতকারী	detractor
Beneficial (adj)	useful, profitable, lucrative	লাভজনক, হিতকর	detrimental
Beneficiary (n)	recipient of benefits	উপকার ভোগ কারী	
Benevolent (adj)	charitable, generous, kind	দয়ালু, সদাশয়	malevolent
Benign (adj)	kind, benevolent	সদয়, সহৃদয়, শান্ত	malignant
Berate (vt)	rebuke, scold, reproach	তীব্র, ভৎসনা করা	praise
Bereave (vt)	deprive, be devoid of	বঞ্চিত হওয়া, বিচ্ছিন্ন হওয়া	
Beset (vt)	overwhelm, besiege,	চারদিক থেকে অবরোধ বা ঘেরাও করা	
Besiege (vt)	enclose, surround	অবরোধ করা	make free
Bestow (vt)	bequeath, give, confer		
Beverage (n)	drink, brew, potion	পানি ব্যতীত যে কোন পানীয়	
Bewilder (vt)	befuddle, confuse, puzzle	হতভম্ব করা, বিভ্রান্ত করা	explain
Bias (n)	prejudice, partiality	পক্ষপাত, ঝোঁক	impartiality
Bicker (vi)	argue, brawl, quarrel	গুরুত্বহীন বিষয় নিয়ে ঝগড়া করা	agree
Bidding (n)	request, command, order	আদেশ, হুকুম	
Bigoted (adj)	narrow-minded, dogmatic	সংকীর্নতা বাদী	open-minded
Bizarre (adj)	odd, strange, weird	অদ্ভুত, বিচিত্র, উদ্ভট	ordinary
Bland (adj)	mild, gentle, insipid	বিনয়ী, নম্র, মৃদু	spicy
Bleach (vt)	blanch, whiten	রং করা, সাদা করা	dye
Bleak (adj)	desolate, gloomy, austere	মলিন, বিবর্ন, জনহীন	cheerful
Bleed (vt)	Hemorrhage, loose blood	রক্তপাত করা, রক্তমোক্ষন করা	
Blemish (n. /vt)	defect, flaw, mark, stain	দাগ, ত্রুটি, দোষ	
Blend (v. /n)	combine, mix, merge	মিশ্রন করা, মিশানো	
Blessed (adj)	holy, sacred	পবিত্র, মহিমান্বিত	
Blessing (n)	wishful approval	আশীর্বাদ দান	
Bliss (n)	ecstasy, paradise	পরম সুখ, স্বর্গসুখ	misery
Blunder (v)	mistakes, bungle, mess up	বোকার মত ভুল করা	
Blunt (adj. v)	obtuse, dull, rounded	ভোঁতা, স্পষ্টবাদী, নীরস	sharp
Boast (vi. Vt)	brag, self-praise, show-off	দম্ভোক্তি, দম্ভ	
Boastful (adj)	bragging, conceited, arrogant	দাম্ভিক, আত্মম্ভরিতাপূর্ন	modest
Bold (adj)	daring, brave	দুর্দমনীয়	cowardly
Bondage (n)	repression, opression	দাসত্ব, বন্দীত্ব	free
Boon (n)	blessing, benefit	বর, অনুগ্রহ, প্রার্থনা	disadvantage
Boredom (n)	tedium, monotony	একঘেয়েজনিত বিরক্ত বা ক্লান্তি	variation
Boundless (adj)	vast, limitless	অসীম	restricted
Bow (vt. N)	bend over, stoop	অভিবাদন করা	
Brag (vt)	boast, talk big, show off	গর্ব করা, বড়াই করা	
Brawl (vi)	bicker, quarrel, scuffle	তুমুল ঝগড়া, যুদ্ধ	
Breach (n)	opening, break, violate	লঙ্ঘন, ভঙ্গ	abide by, honor
Breed (vt. N)	raise; rear, bring up, type	উৎপাদন করা, সন্তান উৎপাদন করা শিক্ষা দেয়া	
Breeze (n)	gentle wind, waft	মৃদুমন্দ বায়ু, আধপোড়া কয়লা	
Brew (vt)	ferment, plot, prepare	মদ চোলাই করা	
Brim (n)	margin, edge, rim	কিনারা	
Brink (n)	margin, edge, rim	কিনারা	
Brisk (adj)	swift, energetic, fast	সতেজ, কর্মচঞ্চল, দ্রুত	center slow

Brittle (adj)	Fragile, breakable	ভঙ্গুর, সহজে বিনষ্ট	sturdy
Bruise (vt.n)	contusion, damage	ঝালশিরে, আঘাতে সৃষ্ট দাগ	
Brutal (adj)	atrocious, vicious, cruel	বর্বর,নিষ্ঠুর,নৃশংস	Good-natured
Bud (n.v)	sprout, blossom	মুকুল, কলি, কুঁড়ি	
Budge (vi./vt)	Move, shift, dislodge	নড়ানো, নড়াচড়া	
Bulk (n)	mass, volume	পরিমান, আয়তন, স্তুপ	small, retail
Bulky (adj)	cumbersome, large	স্থূলকায়, বিপুল	compact
Burglar (n)	thief, robber, intruder	সিধেল চোর	
Burning (adj)	on fire, ablaze, aflame	তীব্র, জলন্ত	
Burnish (vt)	polish, shine	উজ্জ্বলিত করা, ঘসা মাজা	tarnish
Calamity (n)	catastrophy	চরম দুর্দশা	
Caliber (n)	quality, capacity, talent, ability	সামর্থ্য	
Canny (adj)	crafty, clever, shrewd	হুশিয়ার,চতুর, বিচক্ষন	naive
Capable (adj)	able, competent	শক্তিমান, সমর্থ, সক্ষম	incapable
Capacious (adj)	large, voluminous, roomy	সুপরিসর, প্রশস্ত	small, cramped
Captivate (vt)	attract, enthrall, fascinate	বিমোহিত করা, বিমুগ্ধ করা, সম্মোহিত করা	repel
Captivity (n)	imprisonment, custody, detention		freedom
Cardinal (adj)	essential, basic, fundamental	প্রয়োজনীয়, অপরিহার্য, অত্যাবশ্যকীয়	secondary, unimportant
Carnage (n)	killing, massacre, slaughter	ব্যাপক হত্যা	
Carnal (adj)	corporeal, bodily, physical	ইন্দ্রিয়গত, দেহগত	mental
Castigate (vt)	criticize, reprimand, scold	নিন্দা করা, অভিযুক্ত করা, দোষারোপ করা	praise
Casual (adj)	informal, relaxed	লৌকিকতা বর্জিত	
Casualty (n)	victim, sufferer, subject		
Cataclysm (n)	catastrophe, disaster	মহাবিপদ	
Catastrophe (n)	calamity, disaster, upheaval	বিপর্যয়, আকস্মিক বিপত্তি, নাটকে বর্ণিত দ্বন্দমুহূর্তের পরের অংশ	
Categorical (adj)	definite, positive, absolute, unconditional	পরম/ চরম, ব্যাতিক্রম হীন, স্পষ্ট, সন্দেহাতীত, শর্তহীন	conditional
Cathedral (n)	church, chapel	গির্জা	
Caustic (adj)	abrasive, corrosive, scathing	ক্ষারীয়, ক্ষয়কর	mild
Cavern (n)	cave, grotto	খাদ, গভীর গিরিগুহা	
Ceaseless (adj)	incessant, endless, continual	বিরতি হীন, অবিরাম	short-lived
Celebrity (n)	person of note, star, famous	প্রসিদ্ধ বা বিশিষ্ট ব্যক্তি	
Celestial (adj)	astronomical, heavenly	স্বর্গীয়, দৈব	
Censure (n. vt)	fault, criticize, reprimand	নিন্দা	praise
Ceremonial (n. adj)	Ritual, traditional, formal	আনুষ্ঠানিক	
Ceremonious (adj)	formal, solemn, dignified	আড়ম্বর পূর্ন, ভদ্রতাপূর্ন, অনুষ্ঠান পূর্ন	unceremonious
Chafe (vt)	rub, scrape, irritate, abrade	ক্ষয় করা, রাগানো, বিরক্ত হওয়া	
Charisma (n)	charm, appeal, magnetic personality	আধ্যাত্মিক শক্তি, অনন্য সাধারন প্রতিভা	

			tightfisted
Charitable (adj)	generous, benevolent	উদার, সদাশয়	careless
Chary (adj)	cautious, wary	সতর্ক, সাবধানী, সংযত	dishonest, unfaithful
Chaste (adj)	pure, virtuous	সৎ, চরিত্রবতী	
Cherish (vt)	treasure, take care, value	লালন করা, যত্নে পালন	praise, appreciate
Chide (vt)	blame, rebuke, reproach	ভৎর্সনা করা	
Chirp (vt)	peep, cheep, squeak	পাখির কিচির মিচির	
Choke (vt)	strangle, throttle, suffocate	শ্বাস রোধ	
Chore (n)	task, job, errand	গৃহস্থালীর ছোট খাটো কাজ, দৈনন্দিন কাজ	
Chronic (adj)	constant, unceasing	দীর্ঘস্থায়ী, বহু পুরাতন, তীব্র	acute
Cipher (n)	code, secret message	গুপ্ত লিখন, হিসাব করা, সংকেত লিপি	
Circuitous (adj)	indirect, roundabout, twisty	বৃত্তাকার, ঘোরান	straightforward
Circumspect (adj)	prudent, cautious	সতর্ক	reckless
Circumvent (vt)	avoid, get around, evade		
Cite (vt)	quote, refer to, mention	উদ্ধৃত করা	
Clamor (n)	uproar, hubbub, shout	হৈ চৈ	whisper, quiet
Clandestine (adj)	secret, covert	গোপনীয়, গুপ্ত	open
Clarify (vt)	elucidate, make clear, explain	পরিষ্কার করা	confuse
Climax (n)	peak, culmination, final moment	চরম পরিনতি	
Clinch (vt)	Settle, seal, confirm	দৃঢ় মুষ্ঠিতে আকড়ে ধরা	
Cling (vi)	adhere, stick, grip	এঁটে থাকা	let go
Clog (vt)	block, jam, bung up	প্রতিবন্ধক	free
Clumsy (adj)	awkward, inept, ungainly	জবরজং	relaxed
Cluster (n. v)	bunch, concentrate, group	গুচ্ছ	seperated
Clutter (n. v)	litter, disarray, mess	বিশৃঙ্খল অবস্থা, হট্টগোল	order
Coarse (adj)	rough, crude, uncouth	রুক্ষ, কর্কশ	refined
Coax (vt)	wheedle, persuade	প্রলুব্ধ করা, মিস্টি কথায় ভুলানো	
Cogent (adj)	convincing, compelling	দৃঢ় প্রত্যয়ৎপাদক, অকাট্য	weak, unconvincing
Cohere (vt)	connect, fit, join	অন্তর্ভূক্ত, একত্রে এঁটে থাকা	free
Coherent (adj)	logical, unified, rational	অন্তর্ভূক্ত, সঙ্গতিপূর্ন	Inconsistent, Illogical
Cohesion (n)	unity, solidity	এঁটে থাকা, সুসঙ্গতি, একত্রে থাকার স্বভাব	disarray
Cohesive (adj)	unified, consistent	সুসঙ্গতিপূর্ন, অন্তর্ভূক্ত রাখে এমন	disjointed
Coil (n. vt)	curl, wind, loop	কুন্ডলী করা	
Coincide (vi)	concur, agree, match	সমকালীন হওয়া, মিল হওয়া	
Collaborate (vi)	cooperate, team up	সহযোগী	
Collateral (n)	security, guarantee		
Colloquial (adj)	informal, conversation	কথোপকথন	formal
Colossal (a)	immense, huge	অতিকায়, বিশাল	tiny, small
Commence (vt.)	begin, initiate, originate	শুরু হওয়া	end, terminate
Commend (v)	praise, acclaim, extol	দায়িত্ব অর্পন, প্রশংসা	denigrate
Commodious (adj)	spacious, capacious,	প্রশস্ত, সুবিধাজনক, বিস্তৃত	cramped

	roomy		
Communicate (vt)	converse, speak, commune	জানা দেয়া, প্রকাশ করা, আবেগ মনোভাব আদান প্রদান	
Compact (adj)	packed, dense, compressed	ঘন সন্নিবিষ্ট, যুক্ত, সন্ধি	loose
Compassion (n)	sympathy, concern	সহানুভূতি,করুনা	coldness
Compatible (adj)	harmonious, congruous	সুসঙ্গত, সুরেলা	mismatch
Compel (vt)	coerce, force, induce	জোর করা, বাধ্য করা	
Compensation (n)	return, reimbursement	ক্ষতিপূরণ, মেসারত	
Compete (vi)	vie, fight , struggle	প্রতিদ্বন্দ্বিতা করা, প্রতিযোগীতা করা	let go
Competent (adj)	capable, qualified, adept	উপযুক্ত, যোগ্য, সক্ষম	Inept, incompetent
Compile (vt)	collect, put together, amass	সংগ্রহ, সংকলন, রচনা	distribute
Complaint (n. Vt)	grievance, protest	নালিশ, অভিযোগ, অসন্তোষ	
Complement (n. Vt)	balance, set off	অসম্পূর্নতা পূর্ন করা	clash
Complementary(adj)	supplementary, paired	পূর্নতাদায়ক, পূরক	
Complicate (vt)	make difficult, obscure	জটিল, দুরোধ্য	simplify
Compliment (n. Vt)	praise, commendation	প্রশংসা, সৌজন্য	
Complimentary (adj)	free, gratis, admiring	শ্রদ্ধা জ্ঞাপক, সৌজন্য প্রদক	
Comply (vi)	obey, fulfill	মেনে নেয়া, মত দেয়া	disobey
Component (n)	constituent, ingredient	গঠনকারী, উপাদান স্বরূপ	
Composed (adj)	calm, collected	স্থির, শান্ত, আবেগ রোধ করা	agitated
Composure (n)	calmness, equanimity	স্থিরতা	agitation
Comprehend (vt)	understand, realize	অনুধাবন, উপলব্ধি	
Comprehensive (adj)	complete, all-Inclusive	উপলব্ধির ক্ষমতাসম্পন্ন ব্যাপক	sketchy
Comprise (vt)	contain, include, encompass	অন্তর্ভুক্ত করা, ধারন করা	exclude
Compulsive (adj)	irresistible, obsessive obsessed; irrational	বাধ্য করে এমন, পীড়নকরা, দুর্নিবার, বিচারশক্তিহীন	unusual
Compulsory (adj)	obligatory, mandatory, required	বাধ্যতামূলক, অবশ্যকরনীয়	optional
Conceal (vt)	disguise, hide	লুকানো, ছদ্মবেশ পরা, অব্যক্ত	reveal
Concede (vi)	admit, accept, give in	গ্রহন করা, স্বীকার করা, মেনে নেয়া	maintain, disagree
Conceit (n)	vanity, arrogance, pride	অতিশয় আত্মগর্ব, উদ্ধতি	modesty
Conceive (vt. Vi)	imagine, visualize, envisage	কল্পনা করা	
Concerned (adj)	worried, anxious, related	সম্পর্কিত, সংশ্লিস্ট	carefree
Concert (n)	performane, show	অনুষ্টান	
Concerted (adj)	combined, matched	পরস্পরের সহযোগিতায়, উদ্ভাবিত, ঐকতানের সমন্বয়	solitary
Concession (n)	compromise, discount	ছাড়	
Conciliatory (adj)	reconciling, appeasing	সৌহার্দ্য অর্জনকারী	provocative
Concise (adj)	succinct, terse, brief	সংক্ষেপীকৃত, বাহুল্যবর্জিত	lengthy
Conclusive (adj)	decisive, definitive, final	উপসংহারমূলক, চূড়ান্ত, নিশ্চিত, নির্ধারক	unconvincing
Concoct (vt)	devise, invent, create	উদ্ভাবন, আবিষ্কার, পরিপাক	

			insubstantial
Concrete (adj. n)	real, tangible	মূর্ত, বাস্তব	conflict
Concur (vi)	consent, agree, harmonize	একত্রে ঘটা, একমত হওয়া, একস্থানে মিলিত হওয়া	conflict
Concurrence (n)	agrrement, accord, harmony	ঐকমত্য, একত্রে সংঘটন, একস্থানে মিলন	seperate
Concurrent (adj)	simultaneous, synchronized	একমত, অনুষঙ্গী, সহবর্তমান	commend
Condemn (vt)	censure, denounce, criticize	দোষ দেয়া, নিন্দা করা	Chastise acknowledge
Condone (vt)	forgive, denounce, criticize	ক্ষমা	
Conduct (vt)	lead, perform	পরিচালনা	
Conduct (n. /v)	behavior; demeanor	আচরন, ব্যবহার	rival
Confederate (n)	partner, company, ally	মিত্র, সহযোগী, মৈত্রীবদ্ধ	retrieve
Confer (vi. /vt)	discuss, bestow, grant	প্রদান করা, পরামর্শ করা, মন্ত্রনা করা	deny
Confess (vt)	confide, disclose, admit	স্বীকার করা, উন্মোচন করা	unrestricted
Confidential (adj)	secret, classified	গুপ্ত, গোপন	refute
Confirm (vt)	substantiate, verify	দৃঢ়ভাবে প্রতিপন্ন, বাস্তবায়ন করা	restore
Confiscate (vt)	seize, take away	বাজেয়াপ্ত করা	
Confound (vt)	confuse, puzzle, amaze	পরাভূত করা, বিভ্রান্ত করা	
Congenial (adj)	compatible, agreeable, pleasant, pleasing	সদৃশ, উপযোগী, সুসঙ্গত, মানানসই, সমমনোভাব সম্পন্ন	hostile
Congested (adj)	overcrowded, heaving	গাদাগাদি করা	empty, roomy
Congregate (vt)	assemble, gather	জড়ো করা	break up
Connoisseur (n)	expert, authority, specialist	পন্ডিত বিচারক, রস পন্ডিত	
Conscience (n)	ethics, scruples, principles	চেতনা, নীতিবোধ	
Conscientious (adj)	ethical, careful	বিবেক বুদ্ধিপূর্ন	careless
Conscious (adj)	aware, mindful, cognizant	সচেতন	unaware
Consecrate (vt)	dedicate, devote, santify	উৎসর্গ করা, পবিএ কাজে ব্যবহারের উদ্দেশ্যে নিযুক্ত	desecrate
Consecutive (adj)	successive, repeated	ধারাবাহিক, পরপর	interrupted
Consensus (n)	unanimity, accord	একমত	disagreement
Conservative (adj. N)	modest, cautious	সংরক্ষনশীল	avant-garde, modern
Conservatory (n)	greenhouse, hothouse	গ্রীন হাউজ, ভান্ডার	
Conserve (vt)	preserve, save, keep	অবিকৃত রাখা, সংরক্ষিত করা	Destroy
Considerable (adj)	substantial, large	বাস্তবিক, গন্য হওয়ার যোগ্য	insignificant
Considerate (adj)	thoughtful, kind	বিবেচিত	inconsiderate
Console (v)	conciliate, comfort, soothe	সান্ত্বনা দেয়া, প্রবোধ দেয়া	depress
Consolidate (vt)	merge, combine	সুদৃঢ় করা, মিলিত করা	split up
Consort (vt)	associate, companion, spouse	সঙ্গী, সহযোগী, স্ত্রী / স্বামী	
Conspicuous (adj)	noticeable, striking, obvious	দৃষ্টি আকর্ষক, বিশিষ্ট, নজর কাড়ে	inconspicuous
Conspiracy (n)	plot, scheme (negative sense)	চক্রান্ত, ষড়যন্ত্র	
Constitute (vt)	form, compose, comprise	গঠন করা, স্থাপন করা	
Constrict (vt. /vt)	reduce, compress, tighten	চেপে সঙ্কুচিত করা	loosen
Construct (vt)	expound, build, make	নির্মান করা, গঠন করা	knock down

Construe (vt)	interpret, explain	অনুবাদ করা, ব্যাখ্যা করা, অর্থপ্রকাশ করা	
Consume (vt)	spend, devour, eat, drink	শেষ করে ফেলা, ব্যয় করা	
Consumer (n)	customer, user, buyer	ভোক্তা, ব্যবহারকারী	
Contagious (adj)	catching, infectious	সংক্রামক	
Contaminate (vt)	defile, pollute, taint	দূষিত, নোংরা করা	purify
Contemn (vt)	disdain, scorn	অবজ্ঞা করা, ঘৃণা করা	
Contemplate (vt)	consider, think, reflect	মনোযোগের সাথে বিবেচনা করা, চিন্তা করা	
Contemptible (adj)	mean, despicable, disgraceful	ঘৃণ্য, অবজ্ঞেয়	noble
Contemptuous (adj)	arrogant, haughty, disdainful	উদ্ধত, ঘৃণ্য, ধৃষ্ট	admiring
Contend (vt. /vi)	compete, rival, vie	প্রতিযোগিতা করা	
Content (adj)	satisfied, complacent	পরিতৃপ্ত পরম, সন্তোষ	unhappy
Content (n)	matter, substance	সারমর্ম, অভ্যন্তরস্থ বস্তু	
Contingent (adj)	accidental, unforeseen	আকস্মিক, অচিন্তপূর্ব	
Contour (n)	outline, profile, curve	নকশা, দেহরেখা	
Contract (n)	agreement	চুক্তি	
Contract (v)	shrink, reduce, infect	সঙ্কীর্ন বা সঙ্কুচিত হওয়া	
Contradict (vt)	counteract, oppose	অস্বীকার করা, প্রতিবাদ করা	correspond
Contrast (n. / vt)	Opposite, dissimilarity	বৈসাদৃশ্য, বৈষম্য, প্রদর্শন	similarity
Contravene (vt)	contradict, oppose, breach	বিরোধিতা করা, অস্বীকার করা	comply
Contrite (adj)	repentant, remorseful	অনুতপ্ত	unrepentant
Contrive (vt)	invent, plan	পরিকল্পনা করা, উদ্ভাবন	
Controversy (n)	argument, debate	বিতর্ক, বিরোধ	agreement
Controvert (vt)	deny, contradict	বিরোধিতা করা, তর্ক করা	prove
Convene (vt)	assemble, gather	সমবেত হওয়া	disband
Convenient (adj)	suitable, expedient	উপযোগী, সুবিধাজনক	inconvenient
Convention (n)	conference, meeting	সম্মেলন, সভা	
Conventional (adj)	traditional, customary	রীতিগত, প্রচলিত	innovative
Convert (vt)	change, transform	পরিবর্তন, বদল করা	
Convey (vt)	transport, deliver, express	বহন করা, দেয়া	
Convict (n)	criminal, proven guilty	দন্ডিত অপরাধী	
Convoy (vt)	accompany, escort, group	সঙ্গী	
Cordial (adj) .	friendly, warm, friendly, sincerely, pleasant	আন্তরিক, বন্ধুত্বপূর্ন সহৃদয়	frosty
Corpse (n)	deadbody, cadaver	লাশ, শবদেহ	
Corpulent (adj)	fat, fleshy	স্থূলতা, অতিশয় মোটা	slim
Correlate (v)	associate, relate	পরস্পর সম্পর্কযুক্ত হওয়া	
Corroborate (vt)	confirm, substantiate, agree	সত্য বলে দৃঢ়ভাবে সমর্থন করা	contradict
Corrode (vi ./ vt)	erode, eat away, decay	ক্রমশ ক্ষয় হওয়া, অবক্ষয় ঘটা	
Counsel (n. v)	advise, guidance	পরামর্শ, মন্ত্রনা	
Counterfeit (adj)	feign, forge, fake	নকল করা, জাল করা	genuine
Counterpart (n)	equivalent, correspondent	প্রতিরূপ, অনুরূপ	
Courteous (adj)	polite, gracious	ভদ্র, উদার	rude
Covetous (adj)	desirous, avaricious, envious	লোলুপ, লোভী	
Cower (vt)	recoil, shrink	গুটিশুটি মারা, কুঁকড়ে থাওয়া	expand

Cozy (adj)	comfortable, snug	আরামদায়ক	uncomfortable
Craft (n)	skill, dexterity	দক্ষতা, চাতুর্য	ineptness
Crafty (adj)	cunning,sneaky	কৌশলী, দক্ষ, নিপুন	naive
cram (vt)	stuff, pack, fill up	গাদাগাদি করে ভরা, বোঝাই করা	unpack
crash (vt)	erumble, shatter, collide	চুর্ন হওয়ার শব্দ, সংঘর্ষের শব্দ	
crave (vt)	desire, yearn	মিনতি করা, প্রার্থনা করা	dislike
credential (n)	reference, certificate	প্রশংসাপত্র, পরিচয়পত্র	
credit (n)	trust, credence	ধার, আস্থা, বিশ্বাস	blame
credulous (adj)	gullible, naive, trusting	সহজ বিশ্বাসী	shrewd
creed (n)	belief, faith	বিশ্বাস, ধর্মবিশ্বাস	
crooked (adj)	bent, twisted	কোকড়ানো, বাঁকা,	straight
crucial (adj)	decisive, critical, vital	কঠোর, সঙ্কটপূর্ন	trivial
crude (adj)	raw, unpolished	নিষ্ঠুর, নির্দয়, রুক্ষ	polished
crumble (v)	collapse, crash, fall apart	চুর্ন বিচুর্ন করা, টুকরো করা	
cryptic (adj)	mysterious, enigmatic	গুপ্ত, রহস্যজনক	clear, straightforward
cuisine (n)	cooking, gastronomy	রন্ধনবিভাগ, রন্ধন প্রনালী	
culmination (n)	climax, summit, finale	সর্বোচ্চ সীমা	
culpable (adj)	guilty, blameworthy, liable	অপরাধী, দোষী, নিন্দনীয়	innocent
Cunning (adj)	sly, tricky , clever	কৌশলী, দক্ষ, চতুর	guileless
Curb (v)	check, control	নিয়ন্ত্রন, দমন	promote
Curiosity (n)	inquisitiveness, interest	উদগ্রীব, উৎসুক	apathy
Curious (adj)	inquisitive, inquiring	কৌতুহলী, উৎসুক	apathetic, indifferent
Curt (Adj)	abrupt, blunt, brisk	সংক্ষিপ্ত, নীরস	gradual, interesting
Curtail (vt)	cut back, reduce	সংক্ষিপ্ত করা, কেটে বাদ দেয়া	extend
Custom (n)	tradition, convmtion, norms	রীতি, প্রথা, অভ্যাস	
Cynical (adj)	contemptuous, sarcastic	ঘৃন্য, নিন্দনীয়	praiseworthy
Dampen (vt)	make wet, moisten	ভেজা, সিক্ত	dry out
Dangle (vt)	suspend, hang	ঝোলান, দোলান	
Dart (vt)	hurl, throw	তীব্র বেগে ছোড়া, সজোরে নিক্ষেপ	
Dated (adj)	old-fashioned, out-of-date	সেকেলে, চলতি নয়	fresh, modern
Dauntless (adj)	resolute, intrepid, fearless	অকুতোভয়, অদম্য	timid
Daze (n. vi)	dazzle, confusion, stunn	হতবুদ্ধি হওয়া, স্তম্ভিত হওয়া	
Dazzling (adj)	stunning, amazing, astounding	বিস্ময়কর	unremarkable
Deadly (adj)	fatal, lethal	মারাত্মক, সাংঘাতিক, প্রানান্তক	harmless
Debatable (adj)	controversial, unsettled	তর্কসাপেক্ষ, বিচার সাপেক্ষ	certain
Debt (n)	liability, arrears	ঋন, কৃতজ্ঞতা, ধার	credit
Debtor (n)	defaulter, nonpayer	ঋনী, দেনাদার	
Decay (vt)	rot, decompose	ক্ষয়প্রাপ্ত, খারাপ হওয়া	
Deceit (n)	cheat, fraud, treachery	প্রবঞ্চনা, প্রতারনা	honesty
Deceitful (adj)	sly, dishonest	প্রতারনাপূর্ন, কপটতাপূর্ন	honest
Deceive (vt)	mislead, cheat, swindle	ধোকা দেয়া, প্রতারিত করা	
Decent (adj)	reasonable, proper	যথোচিত, যথোপযুক্ত	inadequate
Deceptive (adj)	deceitful, misleading	প্রতারনা মূলক, ভ্রান্তিজনক	honest, transparent
Declaim (v)	speak, hold forth, orate	উদ্দীপ্ত ভাবে কথা বলা, কথায় আক্রমন	

		করা বক্তৃতা দেয়া	
Decorum (n)	good manners, modesty	শিষ্টতা, ভদ্রতা	arrogance
Decree (n. v)	regulation, order, verdict	অধ্যাদেশ, হুকুম	
Decry (vt)	condemn, denounce, criticize	নিন্দাকরা, বিরুদ্ধমত প্রকাশ	praise
Dedicate (vt)	devote, consecrate	উৎসর্গ করা, মহৎকাজে নিয়োজিত করা	
Deem (vt)	think, consider	মনে করা, বিবেচনা করা, বিশ্বাস করা	
Defame (vt)	slander, malign	মানহানি করা, কুৎসা রটান	extol
Default (n. v)	nonfulfilment, nonpayment	অভাব, অপূর্ন	payment
Defend (vt)	protect, guard, preserve	রক্ষা বা আত্মরক্ষা করা	attack
Defer (vt)	delay, postpone	বিলম্বিত করা, স্থগিত করা, মুলতবি রাখা	bring forward
Deference (n)	respect, esteem, awe	মেনে নেয়া, বশ্যতা স্বীকার	disrespect
Deferential (adj)	respectful, dutiful, polite	শ্রদ্ধাপূর্ন, শ্রদ্ধাবান	discourteous
Defiant (adj)	hostile, rebellious, insolent	অবাধ্য, স্পর্ধিত	compliant
Deficit (n)	shortfall, shortage, arrears	অভাব, ঘাটতি	surplus
Defile (vt)	contaminate, taint, besmirch	নিন্দাকরা, দূষিত করা	respect, enhance
Deflect (vt)	divert, deviate	বিপথগামী বা ভিন্নপথগামী হওয়া	
Deform (vt)	disfigure, distort	বিকলাঙ্গ করা, বিকৃত করা	
Defraud (vt)	deceive, beguile, swindle	প্রবঞ্চিত করা, ঠকিয়ে নেয়া	
Defy (vt)	challenge, confront, disobey	যুদ্ধে আহবান করা, প্রকাশ্যে বিরোধীতা করা	obey, comply
Degenerate (adj. vt)	degrade, deteriorate	অধঃপতিত হওয়া	improve
Degrade (vt)	degenerate, lower, humiliate	মর্যাদাহানি করা, সম্মান হানি করা	respect
Deity (n)	God, divinity	দেবত্ব, দেবতা, ঈশ্বর	
Dejected (adj)	depressed, dispirited, gloomy	মনমরা, বিমর্ষ, বিষাদগ্রস্থ	cheerful
Delegate (n)	deputy, representative, envoy	প্রতিনিধি	
Deleterious (adj)	harmful, detrimental, toxic	ক্ষতিকর, ধ্বংসাত্মক, অপকারক	harmless
Delicate (adj)	dainty, elegant, fragile	সুস্বাদু, মুখরোচক, কোমল	robust
Delineate (v)	depict, portray, outline	চিত্র বা বর্ননার সাহায্যে দেখান	
Delude (vt)	beguile, deceive, hoax	প্রতারিত করা, বিভ্রান্ত করা	
Demise (n)	death, end, termination	মৃত্যু, সম্পত্তি, হস্তান্তর	creation
Demolish (vt)	destroy, raze, knock down	ভেঙে ফেলা, ধ্বংস করা	build
Demur (vt)	protest, object	আপত্তি উত্থাপন, ইতস্তত করা	agree
Denote (vt)	indicate, show	নির্দেশ করা, চিহ্নিত করা	
Denounce (vt)	censure, condemn	অভিযুক্ত করা	support
Deny (vt)	refute, reject	অস্বীকার করা, অগ্রাহ্য করা	agree
Depart (vi)	leave, set off	প্রস্থান করা, বহির্গত হওয়া	arrive
Dependent (adj)	reliant	আশ্রিত, পোষ্য	
Depict (vt)	delineate, describe,portray	চিত্রিত করা, বর্ননা করা	
Deplore (vt)	grieve, mourn	গভীর দুঃখবোধ করা, পরিতাপ করা	
Depot (n)	storehouse, contain	ভান্ডার, আগার	
Depreciate (v)	deflate, devalue	মূল্য হ্রাস করা বা হওয়া	
Depression (n)	despair, sadness	বিষাদ, মনমরা ভাব	happiness
Derange (vt)	unbalance, unhinge	বিকল, বিক্ষিপ্ত, অব্যবস্থিত	

Deride (vt)	ridicule, mock, gibe	উপহাস করা, অবজ্ঞা করা	approve
Designate (vt)	assign, nominate, specify	মনোনীত চিহ্নিত	
Designing (adj)	cunning, deceitful	ধূর্ত, চক্রান্তপরায়ণ	ingenuous
Desirous (adj)	eager, keen	অভিলাষী, অভিকাঙ্ক্ষী	indifferent
Desolate (adj)	deserted, bleak, barren	জনমানবশূন্য, বিধবস্ত	populous
Dispatch (vt)	dispose, send off	দ্রুত প্রেরণ	
Desperate (adj)	frantic, anxious	বেপরোয়া, মরিয়া	calm
Despicable (adj)	detestable, contemptible	অবজ্ঞেয়, ঘৃণ্য	admirable
Despise (vt)	belittle, disdain, loathe	অবজ্ঞা, ঘৃণা, তাচ্ছিল্য করা	admire
Despoil (vt)	rob, damage, spoil	সর্বস্বান্ত করা, লুণ্ঠন করা	conserve
Destine (vt)	predestine, fate, doom	নির্ধারিত করা বা হওয়া, নিয়তি নির্ধারিত	
Destiny (n)	fate	নিয়তি, অদৃষ্ট, ভাগ্য	
Detach (vt)	remove, separate	বিযুক্ত বা বিচ্ছিন্ন করা	attach
Detain (vt)	delay, retard, hinder	আটকে বা ঠেকিয়ে রাখা, বিলম্ব করা	make free
Detect (vt)	explore, discover	খুঁজে বের করা, সনাক্ত করা	
Determination (n)	strength of mind, resolve	দৃঢ় সংকল্প, স্থিরীকৃত	
Deterrent (n)	prevention, restriction		incitement
Detest (vt)	abhor, hate, loathe	তীব্র ঘৃণা করা, ঘৃণার্হ	love
Detriment (n)	loss, harm	ক্ষতি, অনিষ্ট	benefit
Detrimental (adj)	harmful, damaging	ক্ষতিকর	beneficial
Devastate (vt)	destroy, demolish	ধ্বংস করা, বিধ্বস্ত করা	
Deviate (vt)	deflect, diverge	পথভ্রষ্ট হওয়া,	
Device (n)	equipment; scheme, ploy	পরিকল্পনা, ফন্দি, কৌশল	
Devious (adj)	circuitous, oblique	ঘোরান, সর্পিল	direct
Devise (vt)	create, invent	কল্পনা করা, উদ্ভাবন করা	
Devoted (adj)	enthusiastic, loyal, commited	একান্ত ভাবে নিয়োজিত, অনুরক্ত	uncommited
Devotion (n)	loyalty, dedication	গভীর অনুরক্তি, আরাধনা	
Devour (vt)	eat up, consume	গোগ্রাসে গেলা, লোভীর মত খাওয়া	
Devout (adj)	pious, religious	ধর্মপ্রাণ, ধার্মিক	irreverent
Dexterous (adj)	adroit, skillful	দক্ষ, কুশলী, পারদর্শী	clumsy
Dialect (n)	vernacular, jargon	উপভাষা, ভাষার আঞ্চলিক রূপ	
Dictatorial (adj)	tyrannical, despotic, autocratic	একনায়কসুলভ	democratic
Diffuse (vt)	scatter, spread, disperse	বিস্তৃত, বিকীর্ণ, ছড়ানো ছিটানো	concentrate
Dignified (adj)	noble, distinguished	সম্মানিত, মর্যাদাবান	undignified
Dignity (n)	self-respect, nobility	সম্মানিত বা মর্যাদাপূর্ণ অবস্থা	
Digress (vt)	deviate, turn away	প্রসঙ্গচ্যুত হওয়া, অপ্রাসঙ্গিক হওয়া	
Dilate (vt)	expand, widen	প্রসারিত হওয়া, বৃহত্তর হওয়া	contract
Dilemma (n)	Quandary, impasse	উভয় সংকট, সংকটাবস্থা	
Diligent (adj)	industrious, assiduous	পরিশ্রমী, অধ্যবসায়ী	lazy
Dilute (vt)	thin, weaken, adulterate	তরলীকরন, তরলীভবন	concentrate
Dim (adj)	faint, vague	অনুজ্জ্বল, অস্পষ্ট, মৃদু	clear, vivid
Dimension (n)	size, proportion	আয়তন, ব্যাপ্তি, মাপ	
Diminish (vt)	decrease, dwindle	হ্রাসকরা,হ্রাসপ্রাপ্ত হওয়া	intensify
Diminutive (adj)	small, tiny	অতি ক্ষুদ্র,হ্রাসকৃত আকার সম্পন্ন	large, gigantic
Dingy (adj)	dirty, shabby	নোংরা,মলিন	clean
Diplomacy (n)	(tact)	কূটনীতি, কূটকৌশল	
Diplomatic (adj)	courteous, tactful, political	কূটনৈতিক, কুশলী	

Disarm (vt)	deactivate, defuse	নিরস্ত্র করা, অস্ত্রব্যবহার হ্রাস করা	
Disarray (n./ vt)	mess, disorder	বিশৃংখলা, বিশৃংখল করা	order
Disastrous (adj)	catastrophic	দুর্ভাগ্যমূলক, বিপর্যয় কারী	
Disband (vt)	dismiss, split up	সৈন্যদল ভেঙ্গে দেয়া	unite
Disburse (vt)	distribute, pay out	প্রাপ্য অর্থ প্রদান করা	
Discard (vt)	reject	বাতিলকরা, ফেলে দেয়া	accept
Discern (vt)	detect, distinguish	দেখা বা উপলব্ধি করা	
Discernible (adj)	detectable	নির্ণয়সাধ্য, বোধগম্য	
Disciple (n)	apprentice	অনুসারী, ভক্ত	
Disclaim (vt)	refuse, repudiate	অস্বীকার করা, দাবী পরিত্যাগ	accept
Discord (n)	disharmony, disagreement	মতানৈক্য, ঝগড়া	accord
Discourse (n)	lecture, disquisition	বক্তৃতা, ধর্মোপদেশ, ভাষন	
Discreet (adj)	prudent, cautious	সর্তক, কৌশলী, বিচক্ষন	careless
Discrete (adj)	separate, distinct	পৃথক, বিযুক্ত, অসংলগ্ন	
Discretion (n)	caution, prudence	বিচক্ষনতা, সর্তকতা	carelessness
Discrimination (n)	prejudice, favoritism, bias	বৈষম্য, পার্থক্যকরন	impartiality
Disdain (vt. n)	despise, scorn, contempt	ঘৃনা করা, অবজ্ঞা করা	respect
Disgust (vt)	revulsion, repugnance	বিরাগ, নিদারুন বিরক্তি	attraction
Dismal (adj)	gloomy, somber	নীরস, বিষন্ন, নিরানন্দ	bright
Dismay (vt)	disconcert, disappointment	আতঙ্ক, হতাশার অনুভূতি	comfort
Disparage (vt)	denigrate, depreciate, belittle	অবমূল্যায়ন করা,অবজ্ঞা করা	praise
Dispatch (vt)	allocate, send off, send out	দ্রুত প্রেরন	
Dispensable (adj)	unnecessary, unimportant	অপ্রয়োজনীয়	indispensable
Displace (vt)	replace, substitute	স্থানচ্যুত করা	restore
Disposition (n)	temperament, nature	বিন্যাস, বিন্যস্তকরন	
Disprove (vt)	refute, invalidate	ভুল বা মিথ্যা প্রমান করা	prove
Disreputable (adj)	notorious, infamous	কুখ্যাত, কলঙ্কজনক	reputable
Disrupt (vt)	disturb, disorder	ব্যাঘ্ন, চুর্ন করা,ব্যাহত করা	order
Dissect (vt)	analyze, divide	ব্যবচ্ছেদ করা, বিশ্লেষন	
Dissemble (vt)	disguise, dissimulate	ছদ্মবেশ ধারন করা	
Disseminate (vt)	distribute, impart	বিতরন করা, ধারনা বা তত্ত্বপ্রচার	
Dissimulate (vt)	disguise, dissemble	প্রকৃত মনোভাব গোপন	
Dissipate (adj)	dispel, disperse	অর্থহীন বা ক্ষতিকর আমোদে লিপ্ত	
Distillation (n)	cleansing, sanitanization	পাতন	
Distort (vt)	misrepresent, twist	বিকৃত করা, মিথ্যা বিবরন দেয়া	straighten
Distract (vt)	sidetrack, divert	মনোযোগ ভিন্নমুখি করা	
Disunite (vt)	cut, split, seperate	বিচ্ছিন্ন করা	
Diverge (vt)	differ, deviate	কেন্দ্রচ্যুতি, বিচ্যুতি, অপসরন ঘটা	converge
Diverse (adj)	different, various	বিভিন্ন, নানারকম, একাধিক	
Diversify (vt)	vary, branch out	বিভিন্ন, রকম করা, বিচিত্র করা	specialize
Divulge (vt)	disclose, reveal	গোপন তথ্য ফাঁস করা	conceal
Doctrine (n)	dogma, principle, theory	মতবাদ, মতধারা	
Dodge (vt)	avoid, evade	এড়িয়ে যাওয়া, কৌশল,ছল	
Dogma (n)	belief, view	অন্ধবিশ্বাস, গোঁড়া মতবাদ, ধর্মমত	
Dogmatic (adj)	opinionated, arbitrary	যে যুক্তিহীন গোড়া মতবাদ প্রকাশ করে	flexible

Doleful (adj)	mournful, sorrowful	বেদনাময়, শোকপূর্ণ	cheerful
Dominant (adj)	authoritarian, prevalent	প্রবল, প্রধান, কর্তৃত্বময়	meek
Dominion (n)	power, authority, control	কর্তৃত্ব, প্রভুত্ব, আধিপত্য	
Doomed (adj)	fated, destined	দন্ডপ্রাপ্ত, ভাগ্যনির্দিষ্ট	active
Dormant (adj)	inactive, latent	সুপ্ত, নিদ্রিত, ঘুমন্ত, নিষ্ক্রিয়	cheerful
Downcast (adj	depressed, dejected	অবসাদগ্রস্থ, ক্লান্ত, দুঃখিত, হতোদ্যম	wake up
Doze (vi)	nap, drowse	তন্দ্রাচ্ছন্ন হওয়া, ঝিমানো	modest
Drastic (adj)	violent, severe	জোরালো, আকস্মিক, তীব্র	advantage
Drawback (n)	disadvantage, defect, demerit	অসুবিধা, বাধা	
Dread (n. v)	fear, trepidation	ভয়, আতঙ্ক	
Drizzle (vt)	rain, sprinkle	গুড়ি গুড়ি বৃষ্টি, হালকা বৃষ্টি	abundance
Drought (n)	aridity, lack, dearth	অনাবৃষ্টি, শুষ্কতা	awake
Drowsy (adj)	sleepy, tired, dozy	তন্দ্রালু, অলস, নিষ্ক্রিয়	
Dual (adj)	double, twofold	দ্বৈত, দ্বিগুন	certain
Dubious (adj)	doubtful, unsure	সন্দেহ পূর্ন, সন্দিগ্ধ	
Dungeon (n)	prison, cell	ভূগর্ভস্থ, অন্ধকার কারাকক্ষ	flimsy
Durable (adj)	lasting, enduring	টেকসই মজবুত	bright
Dusky (adj)	dim, dark	অন্ধকারাচ্ছন্ন, ঝাপসা	
Dwell (v)	reside, inhabit	বাস করা	
Dwelling (n)	abode, shelter, accommodation	বাসস্থান, বাড়ি	
Dwindle (vt)	diminish, decrease	হ্রাস পাওয়া, ক্ষয় প্রাপ্ত হওয়া	increase
Dye (n. v)	pigment, coloring	রং করা, রঞ্জিত করা	
Eager (adj)	keen, excited, enthusiastic	উৎসুক, আগ্রহান্বিত, আকুল, অধীর	indifferent
Ebb (vt)	decay, fade, diminish	ভাটা পড়া, কমে যাওয়া,হ্রাস পাওয়া	surge
Eccentric (adj)	odd,erratic, bizarre, weird	অদ্ভুত, অস্বাভাবিক, খামখেয়ালী	conventional
Ecstasy (n)	joy, happiness, delight	পরমানন্দ, আধ্যাত্মিক সিদ্ধিলাভের অনুভূতি	agony, depression
Edge (n)	rim, margin	প্রান্ত	center
Edible (adj)	eatable, comestible	ভোজ্য, বিষমুক্ত	poisonous
Edify (vt)	enlighten, teach	নৈতিক বা মানসিক উন্নতি সাধন করা	
Efface (vt)	erase, obliterate	মুছে ফেলা, নিশ্চিহ্ন করা, বিলোপ করা	engrave
Effusive (adj)	demonstrative, fulsome		shy
Eject (vt)	emit, ejaculate	স্থানত্যাগে বাধ্য করা, বহিষ্কার করা নির্গত হওয়া	
Elaborate (vt. Adj)	explain, embellish, careful	বিস্তারিত, বিশদ ভাবে সম্পন্ন করা	
Elapse (vt)	go by, pass	অতিক্রান্ত হওয়া	
Elasticity (n)	suppleness, flexibility	স্থিতিস্থাপকতা, নমনীয়তা	
Elation (n)	ecstasy, joy, delight	অনুপ্রেরনা	desolation
Elegant (adj)	refined, exquisite, elaborate	রুচিশীল, অভিজাত	uncouth
Elementary (adj)	basic, simple	প্রাথমিক	
Elevate (vt)	raise, lift up	উত্তোলন করা, উন্নীত করা	
Elite (n)	best, privileged	অভিজাত	
Eloquence (n)	expressiveness, articulacy	বাক পটুতা, বাগ্মীতা	
Eloquent (adj)	persuasive, fluent	বাকপটু, বাগ্মী	
Elucidate (vt)	clarify, explain	ব্যাখ্যা করা, বিচার বিশ্লেষন করা	impassive
Elude (vt)	escape, evade	সুকৌশলে পলায়ন করা	

		এড়িয়ে চলা	
Elusive (adj)	elusory, intangible	পলায়নপর, বিস্মৃতিপ্রবন	definite, tangible
Emaciated (adj)	skinny, haggard, thin	শীর্ন	
Embalm (vt)	preserve, mummify	মমি করা, সুবাসিত করা	
Embarrass (vt)	humiliate, mortify	অস্বস্তি বা লজ্জায় ফেলা	
Embellish (vt)	decorate, adorn	সুন্দর করা, অলংকৃত করা	
Embezzle (vt)	misappropriate, steal	আত্মসাৎ করা	
Embody (vt)	include, incorporate, represent	বাস্তব রূপ দান করা, অন্তর্ভূক্ত করা	
Embrace (vt)	hug, cuddle, contain	আলিঙ্গন করা, অন্তর্ভূক্ত করা	
Embroider (vt)	sew, stich	নকশি করা, সূচিকর্ম করা	
Emend (vt)	amend, improve, alter	ভুল সংশোধন করা	
Emerge (vt)	appear, come out	প্রকাশিত হওয়া, আবির্ভূত হওয়া	
Eminent (adj)	outstanding, distinguished	প্রখ্যাত, বিশিষ্ট	
Emphasize (vt)	underscore, underline, highlight, stress, accentuate	জোর দেয়া, গুরুত্ব প্রদান	
Emphatic (adj)	powerful, vigorous	জোরালো	weak
Empower (vt)	authorize, allow	ক্ষমতা প্রদান করা	
Emulate (vt)	imitate, copy	সমকক্ষ হতে বা ছাড়িয়ে যেতে চেষ্টা করা	
Enable (vt)	make possible	সক্ষম করা, ক্ষমতা প্রদান করা	Disable
Enact (vt)	legislate, impersonate	আইনে পরিনত করা আইন পাশ করা	
Enchant (vt)	enthrall, fascinate	মন্ত্রমুগ্ধ করা, মোহিত করা	
Encompass (vt)	encircle, cover	চর্তুদিক ঘিরে ফেলা	
Encroach (vt)	intrude, trespass	সীমালঙ্ঘন করা	
Encumber (vt)	burden, hamper, hinder	পথরোধ করা, ব্যাহত করা	let go
Endanger (vt)	harm, imperil	বিপদে ফেলা, বিপন্ন করা	
Endeavor (vt)	strive, struggle, attempt	প্রচেষ্টা, প্রচেষ্টা নেয়া	
Endorse (vt)	support, ratify, certify	অনুমোদন করা, সত্যায়িত করা	
Endure (vt)	bear, tolerate	সহ্যকরা, ভোগ করা	forbid
Energetic (adj)	lively, active, vigorous	কর্মশক্তি সম্পন্ন, উদ্যমী	lethargic
Enervate (vt)	enfeeble, weaken	স্নায়ুহীন করা, শারীরিক ও মানসিক ভাবে দুর্বল করা	
Engender (vt)	generate, produce	কারন স্বরূপ হওয়া	
Engross (vt)	absorb, preoccupy	সব সময়ে কাজে লেগে থাকা	
Engulf (vt)	devour, swallow, overwhelm	গ্রাস করা	
Enhance (vt)	raise, improve, augment	বাড়ানো, বৃদ্ধি করা	lessen
Enigma (n)	mystery, riddle	বিভ্রান্তিকর, হেয়ালী পূর্ন ব্যাপার	
Enlighten (vt)	edify, illuminate	জ্ঞান দান করা, সংস্কার করা	
Enlist (vt)	enroll, join	তালিকাভূক্ত করা	
Enormous (adj)	huge, vast, massive	প্রচুর	tiny
Enrage (vt)	infuriate, aggravate, anger	রাগানো, ক্রুদ্ধ করা	
Enrapture (vt)	delight, exult, captivate	পরমানন্দিত করা	
Enrich (vt)	make rich, enhance, augment	ধনী করা, সমৃদ্ধ করা	diminish
Enslave (vt)	enchain, bind	ক্রীতদাসে পরিনত করা	
Entail (vt)	require, involve	চাপিয়ে দেয়া	

Entangle (vt)	control, involve, snare	জড়িয়ে পড়া, ফাঁদ পাতানো	
Enthrall (vt)	captivate, rivet, charm	বিমুগ্ধ করা	apathy
Enthusiasm (n)	passion, eagerness	প্রবল উদ্যম	
Entice (vt)	lure, tempt	প্ররোচিত করা, প্রলুব্ধ করানো	
Entity (n)	body, unit	অস্তিত্ব, স্বতন্ত্র সত্তা	
Entrap (vt)	trick, entice, deceive	ফাঁদে ফেলা	
Entrepreneur (n)	industrialist, starting new business	উদ্যোক্তা, শিল্প, বাণিজ্য সংগঠক	
Enumerate (vt)	count, numerate, itemize	গণনা করা, এক এক করে নামোল্লেখ করা	
Enunciate (v)	articulate, pronounce	উচ্চারণ করা	
Envoy (n)	representative, emissary	বিশেষ প্রতিনিধি	
Episode (n)	interlude, event	কোন সুদীর্ঘ কাহিনীর অন্তর্গত উপাখ্যান	
Epoch (n)	age, era	ইতিহাসের ঘটনাবহুল বা বৈশিষ্ট্য সূচক সময়	
Equate (vt)	associate, compare	সমান বিবেচনা করা	
Equitable (adj)	fair, just, reasonable	ন্যায়সঙ্গত	unfair
Equivalent (adj)	counterpart, match	সমমূল্যের, সমার্থক	different
Equivocate (vi)	prevaricate, fudge	সমূলে উৎপাটন করা	
Equivocal (adj)	ambiguous, vague	দ্ব্যর্থবোধক, সন্দেহজনক	clear
Erect (v)	build, set up, establish	নির্মাণ করা, স্থাপন করা, প্রতিষ্ঠা করা	
Erode (vt)	corrode, wear away	দাঁতে দাঁতে ঘষা করা, খেয়ে ফেলা	
Erratic (adj)	odd, eccentric, unpredictable	ভুল, কথাবার্তায় অসাবধানী	consistent
Erroneous (adj)	incorrect, mistaken	ভ্রান্ত, ভ্রান্ত	correct
Erupt (vt)	explode, burst out	লাভা নির্গত হওয়া, অগ্নুৎপাত	
Eschew (vt)	avoid, shun	এড়িয়ে চলা, বিরত থাকা	participate
Escort (vt)	accompany, guide, usher	রক্ষীবাহিনী, প্রতিরক্ষা সহচর	
Esteem (n. vt)	respect, regard, admiration	উচ্চ ধারনা পোষন করা, অন্যান্য শ্রদ্ধা করা	
Estimable (adj)	admirable, deserving	শ্রদ্ধেয়	unimpressive
Estimate (vt)	gauge, compute	মূল্যবিচার, আনুমানিক হিসাব	
Eternal (adj)	everlasting, perpetual	চিরন্তন, আদি অন্তহীন	temporary
Ethics (n)	principles, morals, beliefs	নৈতিক নীতিমালার পদ্ধতি, জীবন বিধান	
Ethnic (adj)	racial, national	নৃতাত্ত্বিক	
Etiquette (n)	manners, protocol	নম্র-আচরন, প্রচলিত আদব কায়দা	
Euphonious (adj)	sweet, audible	মধুর ধ্বনিযুক্ত	
Evacuate (vt)	Remove, abandon	সৈন্য অপসারন করা	
Evade (vt)	dodge, avoid	কৌশলে এড়ানো, কৌশলে পরিহার করা	
Evaluate (vt)	estimate, assess	মূল্যায়ন করা	
Evaporate (vt)	vaporize, disappear	বাষ্পীভূত হওয়া, বাষ্পে পরিনত করা	
Evasive (adj)	elusive, equivocating	এড়িয়ে যেতে সচেষ্ট	straight
Eventual (adj)	final, ultimate	পরিনামস্বরূপ	
Evident (adj)	obvious, manifest	সহজবোধ্য	unclear
Evoke (vt)	arouse, produce	ডেকে আনা, স্মৃতিতে জাগিয়ে তোলা	
Evolution(adj)	Development, fruition	বিবর্তন	
Evolve (vt)	develop, grow	স্বাভাবিকভাবে বিকশিত হওয়া	
Exacting (adj)	demanding, rigorous	অধিক চাহিদাসম্পন্ন, কঠোর কড়া	easy
Exaggerate (v)	overstate, overemphasize	অতিরঞ্জিত করা, অত্যুক্তিকরা বাড়িয়ে বলা	understate
Exalt (vt)	extol, laud, promote	পদোন্নতি দেয়া, উচ্চপ্রশংসা করা	disparage

Exasperate (vt)	annoy, irritate, infuriate	উত্তেজিত করা, জ্বালানো	
Excavate (vt)	dig, delve, exhume	খনন করা	
Excerpt (n. vt)	selection, extract	কোন গ্রন্থের ভিন্নভাবে ছাপানো অংশ বিশেষ	
Excessive (adj)	overabundant, inordinate	অতিরিক্ত, অপরিমিত	moderate
Excitement (n)	enthusiasm, thrill	উত্তেজনা, উত্তেজক বস্তু ঘটনা বিষয় ইত্যাদি	boredom
Exclaim (n)	shout, ejaculate	বেদনা, ক্রোধ বা বিস্ময়ে অকস্মাৎ চিৎকার করা	
Exclude (vt)	rule out	বাধা দেয়া, বাদ দেয়া	
Exclusion (n)	rejection, omission	বর্জন, বাধাদান, বাদ, ব্যতিক্রম	inclusion
Exclusive (adj)	prohibitive, restrictive, select	বিশিষ্ট, অনন্য, বর্জনকর	
Exemplary (adj)	excellent, ideal	আদর্শস্বরূপ, দৃষ্টান্তমূলক	
Exempt (v. adj)	prevent, immune, excused	রেহাই বা অব্যাহতি দেয়া, রেহাই প্রাপ্ত	
Exert (v)	apply, put forth	প্রয়োগ করা, প্রদর্শন করা	
Exhale (vt)	breathe out, respire	নিঃশ্বাসের সাথে বাতাস ত্যাগ করা	
Exhaust (vt)	use up, drain, tire out	সম্পূর্নরূপে ব্যয় করা, খালি করা, নির্গমন হওয়া, নির্গমনল	refresh
Exhaustive (adj)	comprehensive, thorough	সম্পূর্ন, পুঙ্খানুপুঙ্খ	restricted
Exhume (vt)	excavate, dig	কবর থেকে তুলে আনা, খনন করা	bury
Exile (vt)	banish, deport	নির্বাসন, নির্বাসিত করা	
Exodus (n)	migration, mass departure	বহু লোকের একত্রে বহির্গমন	
Exorbitant (adj)	excessive, unreasonable	অত্যাধিক, মাত্রাতিরিক্ত	reasonable
Exotic (adj)	unusual, foreign	বিদেশী, বহিরাগত, বিচিত্র	familiar
Expansive (adj)	extensive, large, spacious	প্রসারনশীল, বিস্তারন সাধ্য	reserved
Expedient (adj)	suitable, convenient	উদ্দেশ্য সাধনের পক্ষে উপযোগী	
Expedite (vt)	speed up, hasten	অগ্রগতিতে সহায়তা করা, তরান্বিত করা	impede
Expedition (n)	exploration	তৎপরতা, দ্রুতি, নির্দিষ্ট উদ্দেশ্যে অভিযান	
Expeditious (adj)	prompt, speedy	দ্রুত কার্যকর	slow
Expertise (n)	know- how, special skill	বিশেষজ্ঞ মূল্যায়ন	
Expire (vt)	terminate, perish	অবসান হওয়া, নিঃশ্বাস ফেলা	
Explicit (adj)	straightforward, overt	পরিষ্কার ভাবে এবং পরিপূর্নভাবে প্রকাশিত, সুনির্দিষ্ট	implicit
Exploit (v)	explore, make use of	গৌরবময় কীর্তি, চমকপ্রদ কাজ, কাজে লাগানো	waste
Explore (n)	search, travel around	জ্ঞান লাভের উদ্দেশ্যে ভ্রমন, পুঙ্খানুপুঙ্খরূপে পরীক্ষাকরা	
Exponent (n)	interpreter, expositor; index, indicator	প্রতিনিধিত্বকারী, প্রকাশক বা ব্যাখ্যাকারী সূচক	
Exposure (n)	disclosure, uncovering	অনাবৃতকরন, প্রদর্শন, প্রকাশিত করন	
Expound (v)	explain, interpret	ব্যাখ্যা করা, বিস্তারিত বর্ননা করা	
Exquisite (adj)	delicate, fine, elaborate	নিখুত চমৎকারিত্ব পূর্ন, অপরূপ সুন্দর	ugly
Extant (adj)	existing, present	এখনও বিদ্যমান	lost
Extensive (adj)	comprehensive, thorough	বিস্তৃত, ব্যাপক, বিশাল	narrow
Exterminate (vt)	eradicate, eliminate	শেষ করা, সম্পূর্ন ধ্বংস করা	
Extinct (adj)	died out, destroyed	নির্বাপিত,অধুনানিষ্ক্রিয়	living
Extinguish (vt)	put out, quench	শেষ করা, নেভানো	light
Extol (vt)	exalt, praise	উচ্চ প্রশংসা করা	deprecate

Extort (vt)	extract, squeeze	বলপ্রয়োগ, হুমকি প্রদান বা ভীতি প্রদর্শনের মাধ্যমে আদায় করা	
Extraneous (adj)	irrelevant, unrelated	অসংশ্লিষ্ট, বহিরাগত	pertinent
Extravagant (adj)	wasteful, profligate	অপব্যয়ী, অপচয়কর	thrifty
Extricate (vt)	release, liberate	মুক্ত করা	
Exude (vt)	discharge	ঝরা বা ঝরানো, চোঁয়ানো	absorb
Exultant (adj)	happy, jubilant	মহোল্লসিত, জয়োল্লসিত	miserable
Fable (n)	allegory	পৌরাণিক কাহিনী, উপকথা,কল্পকাহিনী	
Fabricate (vt)	make, forge, coin	নির্মান করা, জোড়াতালাগানো	destroy
Facet (n)	aspect, feature	কাটাপাথর বা রত্নের যে কোন একটি পার্শ্ব, সমস্যাদির বিশেষ দিক	
Facetious (adj)	amusing, jesting, teasing	ঠাট্টাবিদ্রূপ পূর্ন	
Facile (adj)	easy, effortless	সহজবোধ্য, সহজলব্ধ	tough
Fallible (adj)	Imperfect, frail	ভ্রমপ্রবণ, পতন প্রবণ	perfect
Fanatic (n. adj)	frantic, fervent	অতিশয় গোড়া ব্যক্তি	
Fantasy (n)	dream, fancy	অলীক কল্পনা, বাঁধনহারা কল্পনা	
Farce (n)	comedy, drama	প্রহসন, হাস্যকর ঘটনাবলী	
Fascinate (vt)	enchant, enthrall, intrigue	মুগ্ধ করা, প্রবলভাবে আকর্ষন করা	repel
Fatuous (adj)	foolish, stupid, indolent	বোকা, জড়বুদ্ধি	sensible
Feasible (adj)	practical, viable	সম্ভব, বিশ্বাসযোগ্য	impossible
Feat (n)	achievement, accomplishment	কৃতিত্বপূর্ন কাজ, কৃতিত্ব	
Feeble (adj)	weak, infirm	দুর্বল, নিস্তেজ, ক্ষীন	strong
Ferocious (adj)	savage, bestial, fierce	হিংস্র, নিষ্ঠুর, বর্বর	gentle
Fertile (adj)	fruitful, rich	উর্বর, ফলনশীল	infertile
Fervent (adj)	ardent, keen		indifferent
Fester (vt)	decay, rankle	পঁচানো, পুঁজপূর্ন	
Feud (n. Vt)	dispute, argument	দ্বন্দ্ব বা কলহ	
Fickle (adj)	changeable, capricious	প্রায়শ পরিবর্তনশীল, দৃঢ়ভাবে অনুগত নয় এমন	consistent
Fictitious (adj)	invented, imaginary	বাস্তবনয়, কল্পিত	factual
Fidelity (n)	loyalty, faithfulness	আনুগত্য, বিশ্বস্ততা	disloyalty
Figment (n)	imaginated thing	কল্পিত বা অবাস্তব কিছু	
Filthy (adj)	dirty, squalid	নোংরা, অশ্লীল	clean
Fishy (adj)	suspicious, dubious	সন্দেহজনক, আঁশটে	aboveboard
Fitful (adj)	disturbed, broken	ক্ষনস্থায়ী, অনিয়মিত	unbroken
Flatter (vt)	compliment, praise	চাটুক্তি,তোষামোদ করা	
Flaw (n)	fault, defect	খুঁত, ত্রুটি, দোষ	
Flee (v)	escape, run away	পালানো, পলায়ন করা	
Flexible (adj)	agile, supple	নমনীয়	stiff, rigid
Flighty (adj)	fickle, capricious	খেয়ালী, অস্থির, চঞ্চল	
Flimsy (adj)	thin, fragile	হালকা ও পাতলা, ফিনফিনে	sturdy
Flounder (vi)	splash, struggle	নাকানি চোবানি খাওয়া, ভুল করা	
Fluster (vt)	confuse, disconcert	হতভম্ব, কিংকর্তব্যবিমুঢ়, হতবুদ্ধি	soothe
Foe (n)	enemy, adversary	শত্রু	friend
Foil (vt)	defeat, frustrate	ব্যর্থ, পর্যুদস্ত	
Foment (vt)	incite, stir up	সেঁকদেয়া, উদ্দীপিতকরা, ইন্ধন যোগানো	defuse
Forbid (vt)	prohibit, prevent	বারন করা, নিষিদ্ধ করা	allow
Foremost (adj)	original, prime, leading	প্রথম, প্রধান, বিশিষ্টতম	

Forerunner (n)	ancestor, predecessor	পূর্বলক্ষন, অগ্রদূত	descendant
Foresee (vt)	foreshadow, predict	আগাম জানা, আগেই বোঝা	
Foresight (n)	forethought, prudence	দুরদর্শিতা, ভবিষৎদর্শিতা	hindsight
Forestall (n)	prevent, preempt	আগাম নিরস্ত বা পথরোধ করা	let go
Forge (vt)	make, feign, fabricate	গড়া, জাল করা, কামারশালা	
Formidable (adj)	dreadful, frightening	ভয়ঙ্কর, ভীতিকর, দুর্ধর্ষ	
Forsake (vt.)	abandon, desert	ছেড়ে দেয়া, পরিত্যাগ করা	keep
Forte (n)	strong point, specialty	বিশেষ পারঙ্গমতা, বিশেষ ক্ষমতা, গুন	vulnerability
Forth (adv)	ahead, onward	বাহিরে, সামনের দিকে	
Forthright (adj)	frank, direct	স্পষ্টবাদী, স্পস্টভাষী	devious
Fortify (vt)	strengthen, reinforce	সুরক্ষিত করা, দুর্ভেদ্য করা	weaken
Fortitude (n)	endurance, courage	আত্মসংযম, বীরোচিত ধৈর্য্য, তিতিক্ষা	impatience
Fortuitous (adj)	accidental, coincidental	আকস্মিক, দৈবিক	expected
Fortunate (adj)	lucky, providential	ভাগ্যবান, সৌভাগ্যপূর্ন, শুভ	unfortunate
Foul (adj)	filthy, rotten	নোংরা, জঘন্য, পূতিগন্ধ	clean
Fragile (adj)	breakable, brittle	ভঙ্গুর, ঠুনকো, নাজুক	sturdy
Frail (adj)	fragile, flimsy	দুর্বল, পলকা, নাজুক	sturdy, strong
Fraternal (adj)	brotherly, cordial	ভ্রাতৃসুলভ, ভ্রাতৃসম	
Fraud (n)	fault, deception	দন্ডনীয় প্রতারনা, প্রবঞ্চনা, ছলনা	
Fraudulent (adj)	deceitful, dishonest	প্রতারনাপূর্ন, ছলনাপূর্ন	genuine
Frenzy (n)	anger, rage, passion	প্রবল উত্তেজনা, ক্ষিপ্ততা	
Fret (vt)	annoy, worry, fuss	অস্থির হওয়া বা করা, ছটফট করা	
Friction (n)	wear and tear, resistance	ঘর্ষন, বিরোধ, ঘষা	smoothness
Fright (n)	fear, anxiety	ত্রাস, শংকা, সন্ত্রাস	bravery
Frugal (adj)	thrifty, economical	সাবধান, মিতব্যয়ী, হিসাব	spendthrift
Frustrate (vt)	baffle, thwart	বিকল, ব্যাহত, ব্যর্থ করা	
Furious (adj)	frenzied, enraged	উন্মত্ত, ক্ষিপ্ত, অসংগত	
Fury (n)	rage, wrath	প্রচন্ড উত্তেজনা, রোষ, ক্ষিপ্ততা	
Fusion (n)	association, synthesis	একী ভবন, গলন, সংমিশ্রন	seperation
Fussy (adj)	finicky, fastidious	অস্থির	
Futile (adj)	useless, vain	নিস্ফল, বৃথা, অপদার্থ	useful
Fuzzy (adj)	frizzy, downy	ঝাপসা, অস্পষ্ট	
Gainful (adj)	profitable, lucrative	অর্থপ্রদ, লাভজনক	unprofitable
Gainsay (vt)	deny, oppose	প্রধানতঃ অপলাপ করা	agree
Gale (n)	storm, tempest	প্রবল বায়ু, ঝড়, বাত্যা	breeze
Gallant (adj)	courageous, heroic	দুঃসাহসী, অকুতোভয়	cowardly
Garb (n)	uniform, outfit	লেবাস, পোষাক	
Garner (vt)	store, gather	মজুত করা, সঞ্চয় করা	scatter
Gash (n)	wound, slash, cut	দীর্ঘ ও গভীর জখম	
Gasp (v)	breathe, gulp	অতিকষ্টে শ্বাস টানা, হাঁপানো	
Gauche (adj)	awkward, clumsy	আড়ষ্ট, অপ্রভিত	polite, smart
Gauge (vt)	calculate, measure	মানদন্ড, মাপ, বিস্তার	
Gaze (v)	stare, look	স্থির দৃষ্টি	
Gem (n)	jewel, precious stone	মূলবানরত্ন	
Generalize (v)	summarize, outline	সাধারন সিদ্ধান্ত টানা	specify
Generate (vt)	produce, give rise to	ঘটানো, উৎপাদন করা	
Generous (adj)	lavish, handsome	উদার, সহৃদয়	tightfisted
Genial (adj)	kindly, good-natured	সদয়, সহানুভূতিশীল, মিতক	hostile

Genre (n)	style, manner	প্রকার, রকম, ধরন	vulgar
Genteel (adj)	well bred, courteous	কেতাদুরস্ত, ভদ্র ও পরিশীলিত	vulgarity
Gentility (n)	refinement	ভদ্রতা, পরিশীলতা	
Germinate (vt)	sprout, grow	অংকুরিত করা বা হওয়া	
Gibe (vt)	deride, ridicule, mock, make fun of	উপহাস করা, ঠাট্টা করা	
Gild (vi)	embellish	সোনালী রং করা	
Gist (n)	theme, substance	মূলকথা, সারমর্ম	
Glamor (n)	attraction, charm	জাদু, মোহিনী শক্তি	dull
Glamorous (adj)	fascination, charming	জাদুময়, মোহিনী রূপময়	inconspicuous
Glaring (adj)	dazzling	চোখ ধাঁধানো, জাজ্বল্যমান	
Gleam (vt)	glimmer, flash	মৃদু দীপ্তি, দীপ্তি বিচ্ছুরিত করা	
Glean (vt)	collect, gather	ফসল কুড়ানো, শস্য দানা খুঁটে তোলা	
Gleeful (adj)	delightful, exultant	উল্লসিত	sad
Gloom (n)	sadness, depression	অস্পষ্টতা, আধো অন্ধকার	brightness
Gloomy (adj)	dark, dim	অন্ধকার, বিষন্ন	bright
Glorious (adj)	magnificent, wonderful	দ্যুতিময়, চমৎকার মহিমন্বিত	shameful
Glossy (adj)	smooth, lustrous	মসৃন ও উজ্জল	uneven
Gnaw (vt)	bite	একনাগারে কামড়ানো	
Gorge (n. vt)	ravine, overeat	গিরিসংকট, রাক্ষসের মত খাওয়া	nibble
Gorgeous (adj)	beautiful, admirable	জমকালো, চমৎকার	ugly
Govern (vt)	control, determine	শাসন করা, পরিচালনা করা	
Grab (vt)	snatch, rob	ঝপ করে ধরা, আঁকড়ে ধরা	
Gracious (adj)	affable, cordial	উদার, ভদ্র,সদয়	reserved
Grasp (vt)	apprehend, comprehend	আঁকড়ে ধরা, উপলব্ধি করা	let go
Grateful (adj)	thankful, obliged	কৃতজ্ঞ	ungrateful
Gratify (vt)	satisfy, indulge	খুশি করা, সন্তোষ্ট করা	displease
Gratitude (n)	thankfulness	কৃতজ্ঞতা	
Gratuitous (adj)	unwarranted	বিনামূল্যে প্রদত্ত বা প্রাপ্ত	
Gravity (n)	magnitude, seriousness	মাধ্যাকর্ষন শক্তি, গম্ভীর ভাব	insignificance
Greasy (Adj)	oily	চর্বিযুক্ত, পিচ্ছিল	
Greedy (adj)	voracious, insatiable	লোভী, লোভাতুর	
Gregarious (adj)	social, outgoing	দলবদ্ধ ভাবে বাস করে এমন	shy
Grievance (n)	dissatisfaction, complaint	দুঃখ, দুর্দশা	
Grieve (vi)	sorrow, mourn	দুঃখ দেয়া, দুঃখ করা	rejoice
Grim (adj)	cruel, merciless	কঠোর, নির্মম, ভয়ানক	kind
Grind (vt)	crush, mill	ঘসে চুর্ন বা গুঁড়া করা, নিষ্পিষ্ট করা,	
Grip (n)	grasp, clasp	আঁকড়ে ধরা, শক্ত হাতে ধরা	
Grope (vt)	fumble, search	অন্ধের মত হাতড়ে ফেরা	
Grouchy (adj)	bed – tempered, petulant	গোমড়ামুখো মানুষ, নাখোশ	good-natured
Grumble (vt)	complain, grunt	ক্ষুব্ধ অসন্তুষ্ট বিড়বিড়া করা	
Grumpy (adj)	ill –tempered, cranky	বদমেজাজী, রুষ্ট	cheerful
Guileless (adj)	frank, honest	প্রতারনাহীন, অকপট	evasive
Guise (n)	appearance	পোষাকের ধরন, বেশ,	
Hackneyed (adj)	mouldy, stale, trite	অতি প্রচলিত, অতিব্যবহৃত	innovative
Haggle (vt)	argue, bargain	দরকষাকষি করা	
Hail (n. vt)	acclaim, applaud	সম্ভাষন জানানো, অভিনন্দিত করা	vilify
Hamper (vt)	hinder, impede, handicap	বাধা দেয়া, ব্যাহত করা	facilitate

Handy (adj)	convenient, skilful	কুশলী, হাতের কাছে পটু	useless
Hardy (adj)	tough, rugged	শক্ত, কষ্ট সহিষ্ণু	tender
Harness (vt)	utilize	শক্তি উৎপাদনের জন্য ব্যবহার করা	
Harsh (adj)	hoarse, unpleasant	রূঢ়, কর্কশ	gentle
Harvest (n. / v)	crop, yield	ফসল তোলা, ফসল কাটা	
Hasten (vt. Vi)	hurry, quicken	দ্রুত চলা বা করা, ত্বরান্বিত করা	
Hasty (adj)	rushed, speedy	ত্বরিত, চটজলদি	slow
Hatch (v)	incubate, breed	ডিমে তা দেয়া, ডিম ফুটে বাচ্চা বের হওয়া	
Hatred (n)	abomination, hate	ঘৃনা, তীব্র বিরাগ	love
Haughty (adj)	disdainful, arrogant	উদ্ধত, অহঙ্কারী	modest, polite
Haul (vt)	drag, transport	সবলে টানা	
Haunt (vt)	frequent	অভ্যাসগত ভাব বা হরহামেশা কোথাও যাতায়ত করা	
Haven (n)	shelter, refuge	পোতাশ্রয়, বিশ্রামস্থল	
Hazard (n)	risk, danger	ঝুঁকি, বিপদ	security
Hazardous (adj)	dangerous, perilous	ঝুঁকিপূর্ন	safe
Headstrong (adj)	obstinate, stubborn	একগুয়ে, স্বেচ্ছাচারী	docile
Heal (vt, n)	cure, recover	নিরাময় করা, উপশম করা	worsen
Hearsay (n)	rumor, gossip	জনশ্রুতি, জনরব	
Heave (vt)	lift, fling	তোলা, উত্তোলন করা	push back
Hectic (adj)	busy, feverish	জ্বরতপ্ত, কর্মব্যস্ত	
Heedless (adj)	neglectful, oblivious	অমনোযোগী, অসাবধান	careful
Helpless (adj)	powerless, weak	অসহায়, নিরুপায়	self-reliant
Heredity (n)	genetics, inheritance	বংশগতি	
Heresy (n)	dissent, deviation	প্রচলিত মতের বিরুদ্ধে বিশ্বাস	belief
Heritage (n)	legacy, bequest	উত্তরাধিকার	
Hermit (n)	recluse, loner	তপস্বী, নির্জনবাসী ব্যক্তি	
Hesitate (vi)	falter, vacillate	দ্বিধা, ইতস্তত করা	
Hideous (adj)	ugly, illlooking	অতিকুৎসিত, কদাকার	
Hilarious (adj)	delightful, amusing	আনন্দউল্লাসপূর্ন, আনোন্দচঞ্চল	
Hinder (vt)	hamper, impede	ব্যাহত	
Hoarse (adj)	husky, rough	কর্কশ, ভাঙ্গা ভাঙ্গা	smooth
Hoax (n. / v)	trick, prank	ধোঁকা, তামাশা, চাতুরী	
Hoist (v. N)	lift, raise	তোলা, উত্তোলন করা	
Holocaust (n)	slaughter	ব্যাপক ধ্বংস, ধ্বংসযজ্ঞ	
Homage (n)	respect, reverence	শ্রদ্ধা, অভ্যর্থনা	
Homogeneous (adj)	uniform, same	সমজাতীয়, সমজাতিক	heterogeneous
Horror (n)	dismay, revulsion	বিভীষিকা, আতঙ্ক	
Hospitable (adj)	sociable, companionable	অতিথি পরায়ন, অতিথিবৎসল	unwelcoming
Hostile (adj)	antagonistic	বৈরী, শত্রুপক্ষীয়	friendly
Howl (vt)	wail, bawl	একটানা হুঙ্কার, গর্জন, আর্তনাদ	
Hubbub (n)	uproar, noise	কোলাহল, হৈ চৈ	quiet
Humane (adj)	sympathetic, kind	সহৃদয়, দয়ালু	inhumane
Humid (adj)	damp, moist	আর্দ্র , স্যাঁতস্যাতে	dry
Humidity (n)	moisture, dampness	আর্দ্রতা	dryness
Humiliate (vt)	shame, humble, insult	লজ্জিত করা, অপমানিত করা	
Humorous (adj)	funny, amusing	রসাত্মক, রসিকতাপূর্ন	

Hurdle (n)	obstacle, problem	অন্তরায় বেড়া, অবরোধ	
Husbandry (n)	farming, management	কৃষি, ব্যবস্থাপনা	
Hustle (vt)	hurry, hasten	ধাক্কা মারা, ঠেলা মারা	
Hybrid (n)	cross, mixture	সংকর, দো-আঁশলা	
Hygiene (n)	sanitation, cleanliness	স্বাস্থ্যবিধি, পরিষ্কার পরিচ্ছন্নতা	
Hypothesis (n)	assumption, theory	উপপ্রমেয়, প্রকল্প	
Iceberg (n)		হিমশৈল	different
Identical (adj)	tantamount, same	অভিন্ন, হুবহু, অনুরূপ	
Identify (vt)	recognize	সনাক্ত করা, চিহ্নিত করা	
Ideology (n)	philosophy, beliefs	ভাবধারা, ভাবাদর্শ	logic
Idiocy (n)	stupidity, silliness	চরম বুদ্ধিহীনতা, অজ্ঞান	
Idiosyncrasy (n)	pecularity, eccentricity		
Idol (n)	icon, satute	বিগ্রহ, প্রতিমা	
Idyllic (adj)	peaceful, tranquil	শান্তসমাহিত, স্বপ্নালস	
Ignite (vt)	inflame, kindle	জ্বালানো, প্রজ্বলিত করা	
Ignoble (adj)	despicable, dishonorable	নীচ, জঘন্য, হীন	noble
Ignominious (adj)	disgraceful, humiliating	লজ্জাকর, অপমানকর	honorable
Ignorance (n)	lack of knowledge	অজ্ঞতা, অজ্ঞানতা	knowledge
Ignore (v.)	disregard, neglect	উপেক্ষা করা, গ্রাহ্য না করা	notice
Illegible (adj)	unreadable, scrawled	দুষ্পাঠ্য, অস্পষ্টাক্ষর	legible
Illegitimate (adj)	illegal, unlawful	অবৈধ	legitimate
Illicit (adj)	unlawful, illegal	নিষিদ্ধ, অবৈধ	legal
Illiterate (n)	uneducated, ignorant	নিরক্ষর, মূর্খ	literate
Illuminate (vt)	clarify, light up	উদ্ভাসিত করা, আলোকিত করা	darken
Illusion (n)	hallucination, delusion	মায়া, মোহ	
Illustrate (vt)	exemplify, explain	ব্যাখ্যা করা, বর্ননা করা	
Illustrious (adj)	famous, distinguished	কীর্তিমান, প্রথিতযশা	
Imaginary (adj)	fantasy, unreal	কাল্পনিক, অবাস্তব	real
Imaginative (adj)	creative, inventive	কল্পনাপ্রবন, কল্পনাশ্রয়ী	
Imbibe (vt)	absorb, assimilate	পান বা হজম করা, শুষে নেয়া	
Imbue (vt)	permeate, instill	অনুপ্রানিত করা, পরিপূরিত করা	
Imitate (vt)	copy, reproduce	অনুকরন করা, অনুবর্তন করা	
Immediate (adj)	instant, direct	অব্যবহিত, আসন্ন	gradual
Immense (adj)	huge, vast	বিশাল, অতিকায়	tiny
Immerse (vt)	indulge, submerge	ডোবানো, নিমজ্জিত করা	
Imminent (adj)	impending, approaching	আসন্ন, সমুপস্থিত	distant
Immobile (adj)	fixed, stationary	নিশ্চল, গতিহীন, স্থাবর	mobile
Immortal (adj)	undyuing, everlasting	অক্ষয়, অবিনশ্বর	mortal
Immune (adj)	unaffected, protected	মুক্ত, নিরাপদ	susceptible
Impact (n. v)	collision, force; affect,influence	সংঘর্ষ, সংঘাত	
Impair (vt)	harm, damage	ক্ষতি করা, বিকল করা	enhance
Impale (vt)	pierce, prnetrate	বর্শাবিদ্ধ বা শূলবিদ্ধ করা	
Impart (vt)	inform, disseminate	আলাদা করা	
Impartial (adj)	fair, unbiased	নিরপেক্ষ, পক্ষপাতহীন	biased
Impassioned (adj)	emotional, ardent	আবেগ তাড়িত করা	Impassive
Impassive (adj)	apathetic, indifferent	নির্বিকার, নিরাবেগ	ardent
Impatient (adj)	intolerant	অসহিষ্ণু, অধৈর্য্য	patient

Impeach (vt)	accuse, indict	সন্দেহ উত্থাপন করা, প্রশ্ন তোলা	
Impeccable (adj)	faultless, stainless	নিখুঁত, নিষ্কলঙ্ক	faulty
Impel (vt)	compel, urge	বাধ্য, প্রনোদিত, প্ররোচিত করা	
Impertinent (adj)	insolent, impudent	অবিনয়ী, প্রগল্‌ভ	respectful
Impervious (adj)	impenetrable, impermeable	অভেদ্য, অপ্রবেশ্য	penetrable
Impetuous (adj)	impulsive	অতিরিক্ত আবেগী	considered
Impetus (n)	urge, momentum	গতিশক্তি, সংবেগ, গতি	inertia
Implement (vt)	carry out, fulfil, execute	বাস্তবায়িত করা, কার্যে পরিনত করা	
Implicate (vt)	Involve, associate	জড়িত বলে দেখানো, বিজড়িত	release
Implicit (adj)	inferred, implied	নিহিত, ইশারা ইঙ্গিতে প্রকাশিত	explicit
Imposing (adj)	impressive, striking	জমকালো, বিস্ময়কর	unimpressive
Impotence (n)	powerlessness	অক্ষমতা, ক্লীবতা	power
Imprisonment (n)	custody, confinement	কয়েদ, কারাবন্ধন	
Impromptu (adj)	extempore, improvised	প্রত্যুৎপন্ন, অচিন্ত্যপূর্ণ	prepared
Improvise (vt)	extemporize	উপস্থিত মত রচনা করা	
Imprudent (adj)	rash, hasty, reckless	অবিমৃষ্যকারী, হঠকারী	prudent
Impudent (adj)	rude, brash, insolent	ধৃষ্ট, নির্লজ্জ	respectful
Impulse (n)	urge, momentum	প্রেরনা, প্রনোদনা	aversion
Impulsive (adj)	propelling, driving	আবেগ প্রবৃত্ত, আবেগতাড়িত	cautious
Impure (adj)	adulterated, unrefined	অশুচি, অশুদ্ধ, দূষিত	pure
Impute (vt)	ascribe, attribute	দোষারোপ করা, আরোপ করা	
Inaugurate (vt)	commence, initiate	অভিষিক্ত করা, উদ্বোধন করা	
Incapacitate (vt)	disable, handicap	অসমর্থ করা	enable
Incentive (n)	motivation	উদ্দীপক, যা উৎসাহিত করে	
Incessant (adj)	ceaseless, continual	নিরন্তর, অবিরত, বিরামহীন	sporadic
Incipient (adj)	initial, embryonic	আদ্য, প্রাথমিক স্তরবর্তী	
Incisive (adj)	profound, keen	তীক্ষ্ণ, সূক্ষ্মবুদ্ধি	dull
Incite (vt)	arouse, provoke, stir	প্ররোচিত করা, উদ্দীপ্ত করা	inhibit
Inclined (adj)	liable	অবনত, ঝোকানো	disinclined
Incoherent (adj)	disconnected	অসংলগ্ন	coherent
Incompatible (adj)	inconsistent, incongruous	সঙ্গতিহীন, সামঞ্জস্যহীন	consistent
Incompetent (adj)	useless, inept	অযোগ্য, যোগ্যতাহীন	adept, competent
Inconceivable (adj)	unimaginable, unthinkable	অভাবনীয়, অচিন্তনীয়	practical
Incongruity (n)	strangeness, absurdity	অসামঞ্জস্য, অসঙ্গতি	consistency
Incongruous (adj)	inconsistent, absurd	অসামঞ্জস্যপূর্ণ, সঙ্গতিবিহীন	consistent
Incredible (adj)	unbelievable, improbable	অবিশ্বাস্য, প্রত্যয়াতীত	credible
Incredulity (n)	suspicion, disbelief	অবিশ্বাস, অপ্রতীতি	trust, belief
Incriminate (vt)	accuse, implicate	অভিযুক্ত করা, দোষারোপ করা	
Incur (vt)	arouse, provoke	গ্রস্থ হওয়া, ডেকে আনা	
Indecent (adj)	improper, unacceptable	গর্হিত, শিষ্টাচার বিরুদ্ধ	decent
Indefatigable (adj)	tireless, dogged	অক্লান্ত, অশ্রান্ত	tired, fatigued
Indefinte (adj)	infinite, unlimited	অনিশ্চিত, অনির্দিষ্ট	certain
Indemnity (n)	insurance, protection	ক্ষতিপূরন, নিরাপত্তা, প্রতিবিধান	
Indictment (n)	charge, accusation	অভিযোগ, অভিযোগপত্র	
Indifferent (adj)	uninterested, nonchalant	নিস্পৃহ, উদাসীন	concerned
Indigenous (adj)	aboriginal, native	দেশী, স্বদেশজাত	foreign
Indigent (adj)	needy, poor	দরিদ্র, অকিঞ্চন	wealthy

Indolent (adj)	lazy, slothful	অলস, নিষ্ক্রিয়, নিষ্কর্মা	industrious
Indomitable (adj)	invincible, relentless	অদম্য, দুর্দম্য	feeble
Induce (vt)	cause, persuade	উৎসাহিত করা, সম্মত করা	dissuade
Industrious (adj)	assiduous, diligent, sedulous	পরিশ্রমী, অধ্যবসায়ী	indolent
Ineligible (adj)	disqualified, unsuitable	অনধিকারী, অযোগ্য	eligible
Inept (adj)	incompetent, inefficient	অপটু, অযোগ্য	adept
Inert (adj)	immobile, inactive	অচেতন, জড়, নিষ্ক্রিয়	moving
Inertia (n)	laziness, indolence	জড়তা	mobility
Infallible (adj)	perfect, fullproof	অভ্রান্ত, অমোঘ, অব্যর্থ	fallible
Infamous (adj)	notorious, disgraceful	কুখ্যাত, জঘন্য	famous
Infer (vt)	deduce, imply	অনুমান করা, সিদ্ধান্তে আসা	
Inferior (n Adj)	lesser, substandard	অধস্তন, নিকৃষ্ট	superior
Inflation (n)	rise, increase	মুদ্রাস্ফীতি, বৃদ্ধি পাওয়া	deflation
Inflict (vt)	incur, impose	প্রদান করা, বিধান করা, চাপানো	
Influx (n)	arrival, invasion	অভ্যন্তর মুখী প্রবাহ, আগম	
Infringe (vt)	break, breach, violate	লঙ্ঘন করা, ভঙ্গ করা	obey
Infuse (vt)	imbue, instill	পরিপূর্ণ করা, সঞ্চার করা	
Ingenious (adj)	clever, intelligent	উদ্ভবনকুশল, বিচক্ষণ	thick
Inhabitant (n)	resident, occupant	অধিবাসী, নিবাসী, স্থায়ী	
Inherent (adj)	innate, intrinsic	স্বাভাবিক, আনুষঙ্গিক, অন্তঃস্থায়ী	
Initiate (vt)	begin, commence	চালু করা, প্রবর্তিত করা, সূত্রপাত করা	
Injurious (adj)	harmful, deleterious	ক্ষতিকর, অনিষ্টকর	harmless
Innate (adj)	inborn, inherent	সহজাত, স্বভাবজ, অন্তর্জাত	
Innovation (n)	novelty, modernization	নবপ্রবর্তন, নবরীতি	tradition
Inordinate (adj)	excessive, immoderate	অসংযত, অপরিমিত	moderate
Inquisitive (adj)	nosy, curious	কৌতুহলী, কৌতুহলান্বিত	apathetic
Insane (adj)	crazy, mad	পাগল, উন্মাদ	sane
Insinuate (vt)	allude, hint, imply	সুকৌশলে প্রবেশ করা, বক্রোক্তি করা	
Insist (vt)	claim, adhere	জোর দিয়ে বলা, দৃঢ় কণ্ঠে ঘোষনা করা	
Insolent (adj)	impudent, haughty, arrogant	উদ্ধত, ধৃষ্ট	polite
Instantaneous (adj)	ephemeral, immediate	তাৎক্ষনিক	
Instigate (vt)	prompt, initiate	প্ররোচিত করা, উৎসাহিত করা	
Instill (vt)	infuse, inpart	ধীরে ধীরে নিবেশিত বা সঞ্চারিত করা	
Instinctive (adj)	inpulsive, spontaneous	সহজাত, সাহজিক	conscious
Insubordinate (adj)	disobedient, rebellious	অবাধ্য, অবিনীত	obedient
Insufferable (adj)	unbearable, intolerable	অসহ্য, দুঃসহ	
Insular (adj)	isolated, narrowminded	দ্বীপসংক্রান্ত, সঙ্কীর্নচিত্ত	open-minded
Integrate (vt)	combine, join	সমন্বিতাসাধন করা, সংহত করা	
Integrity (n)	honesty, congruity	সাধুতা, সত্যশীলতা	dishonesty
Intelligible (adj)	apprehensible, clear	গুরোধ্য, সুগ্রাহ্য	unintelligible
Intense (adj)	acute, severe	তীব্র,উদগ্র, প্রগাঢ়	moderate
Intensify (vt)	enhance, strengthen		weaken
Intensive (adj)	concentrated	গভীর, প্রগাঢ়, নিবিড়	sketchy
Intercept (vt)	hold back, stop	মাঝপথে পাকড়াও করা, অভিগ্রহন করা	
Interfere (vi)	intervene, meddle	অনধিকারচর্চা, পরাধিকারচর্চা	
Interlude (n)	interval, episode	অবকাশ, মধ্যবর্তী বিরতি	

Intermediary (n)	mediator	যোগাযোগের মাধ্যম	
Interrogate (vt)	interview, cross-examine	প্রশ্ন করা, জিজ্ঞাসাবাদ করা	
Intervene (vi)	interfere, influence	হস্তক্ষেপ করা	
Intimacy (n)	proximity, familiarity	ঘনিষ্ঠতা, অন্তরঙ্গতা	distant
Intimate (adj,v)	close, cherished	অন্তরঙ্গ, ঘনিষ্ঠ	
Intimidate (vt)	frighten, threaten	ভীতি প্রদর্শন করা	
Intoxicate (vt)	make crazy	উন্মাদিত বা মাতাল করা	
Intrepid (adj)	fearless, dauntless	অকুতোভয়, নিঃশঙ্ক	cowardly
Intricate (adj)	complicated, entangled	জটিল, দুর্বোধ্য, কুটিল	simple
Intrinsic (adj)	substantive, inherent	স্বকীয়, অন্তর্নিহিত	extrinsic
Intrude (vt)	encroach, infringe	অনাহূত, অবাঞ্ছিতভাবে প্রবেশ করা	
Intuition (n)	instinct, perception	স্বজ্ঞা, অন্তর্জ্ঞান	
Inure (vt)	accustom	অভ্যস্ত করা	
Invade (vt)	intrude, aggress	হানা দেয়া, উপদ্রব করা	
Invalid (adj)	void, null	অক্ষম, অশক্ত, অকেজো	valid
Invaluable (adj)	valuable, precious	অমূল্য, অনর্ঘ্য	worthless
Inventory (n)	list, record, account	বিস্তারিত তালিকা, পরিসংখ্যানপত্র	
Inverse (adj)	contrary, opposite	উল্টো, বিপরীত	parallel
Invert (vt)	overturn, reverse	উল্টানো, বিপর্যস্ত করা	straighten
Invocation (n)	plea, prayer	আবাহন, নামোচ্চারন	
Invoke (vt)	beg, pray	আবাহন করা, প্রার্থনা করা	
Irreconcilable (adj)	unconformable, incomparile	মেলানো যায় না এমন, অসদৃশ	compatible
Irrelevant (adj)	unrelated	অপ্রাসঙ্গিক, অবান্তর	relevant
Irrepressible (adj)	insuppressible, uncontrolled	অদম্য, দুর্দমনীয়	orderly
Irreproachable (adj)	inculpable, impeccable	অনবদ্য, অনিন্দ্য	faulty
Irresistible (adj)	tempting, overwhelming	অপ্রতিরোধ্য, দুর্নিবার	unappealing
Irresolute (adj)	hesitating, indecisive	অস্থিরমতি, অস্থিরমনস্ক	determined
Irreverent (adj)	disrespectful, impudent	শ্রদ্ধাহীন, অশ্রদ্ধ	respectful
Irrevocable (adj)	irreversible, unalterable	চূড়ান্ত ও অপরিবর্তনীয়	flexible
Irrigate (vt)	water, hose down	জলসরবরাহ করা, জলসেচ করা	
Irritable (adj)	peevish, irascible, petulant, grouchy	সহজে রেগে যায় এমন, খিটখিটে	easygoing
Isolate (vt)	insulate, separate	বিচ্ছিন্ন করা, পৃথক করা	unite
Jar (vt)	grate, annoy	পীড়িত করা, বিচলিত করা	
Jealous (adj)	envious, resentful	ঈর্ষান্বিত, ঈর্ষাপরায়ন	
Jeer (vr)	deride, gibe	উপহাস করা, বিদ্রুপ করা	applaud
Jeopardy (n)	danger, risk	বিপদ, ঝুঁকি, ক্ষতি	
Jolt (vt)	shake, jar	ঝাঁকি দেয়া, আকস্মিক ধাক্কা দেয়া	
Joyous (adj)	happy, merry, blissful	আনন্দপূর্ণ, হর্ষপূর্ণ	sad
Juncture (n)	junction, joining	সংযোগ, সন্ধিক্ষন	
Jurisdiction (n)	authority, legislation	বিচার ব্যবস্থা, আইনগত অধিকার	
Juvenile (adj)	adolescent, young	তরুন, স্বল্পবয়স্ক ব্যক্তি	
Ken (n)	knowledge, ingelligence	অজানা, জ্ঞানের সীমার বাইরে	
Kindle (vt)	ignite, inflame	আগুন ধরানো, উদ্দীপ্ত করা	douse
Kingdom (n)	realm	রাজ্য, রাজত্ব	
Laborious (adj)	arduous, painstaking	শ্রমসাধ্য	easy

Labyrinth (n)	maze, tangle	গোলকধাঁধা	
Lament (n. vt)	mourn, grieveover	শোক করা, বিলাপ করা	flourish
Languish (vt)	wither, fade	নিস্তেজ হওয়া, অবসন্ন হওয়া	temporary
Lasting (adj)	enduring, long- term	স্থায়ীহওয়া, টেকসই হওয়া	vilify
Laud (vt)	compliment, praise	প্রশংসা করা, গুনকীর্তন করা	despicable
Laudable (adj)	praiseworthy, commendable	প্রসংশার যোগ্য, প্রশংসাজনক	
Launch (vt)	send off , start		scanty
Lavish (adj)	plenty, wasteful	অমিতব্যয়ী, অপব্যয়ী	
Lawsuit (n)	court case, proceedings	মামলা, মোকদ্দমা	
Leash (n. v)	bridle, strap	চর্মনির্মিত রজ্জু, নিয়ন্ত্রন করা, সংযত করা	
Legacy (n)	bequest, heritage	উত্তরাধিকার, উত্তরাধিকার সূত্রে প্রাপ্ত	
Legalize (adj)	make legal, authorize	আইনসম্মত করা, বৈধ করা	criminalize
Legislate (vt)	lawmaking	আইন প্রনয়ন করা	
Lethal (adj)	fatal, deadly	প্রানঘাতী, মারাত্মক	life-giving
Levy (n)	tax, charge	কর	
Liaison (n)	contact, connection	দুই পক্ষের সংযোগ বা যোগাযোগ	
Liberal (adj)	lenient, broad- minded	বদান্য, উদার, মুক্তহস্ত	conservative
Liberate (vt)	discharge, release	মুক্ত করা, উদ্ধার করা	
Limpid (adj)	transparent, clear	নির্মল, স্বচ্ছ	shallow
Listless (adj)	sluggish, lifeless	হতোদ্যম, নিরুৎসাহ	enthusiastic
Lithe (adj)	flexible, supple	নমনীয়, সহজে নাড়াচাড়া করা যায় না এমন	rigid
Loath (adj)	reluctant, unwilling	অনিচ্ছুক	eager
Loathe (vt)	hate, dislike	বিরাগ পোষন করা, অপছন্দ করা	adore
Lofty (adj)	high, towering	সুউচ্চ, বৈশিষ্টপূর্ন, চমৎকার	short
Lull (n. v)	calm down, soothe	শান্ত করা, ঘুম পাড়ানো	flare-up
Luminous (adj)	glowing, shining	আলোকজ্বল, উজ্জ্বল	dull
Lure (vt)	entice, tempt	প্রলোভন, মায়া, প্রলব্ধ করা	repel
Lurk (vt)	prowl, slink	ওঁত পেতে থাকা	
Luster (n)	brightness, shine	দীপ্তি, ঔজজ্বল্য	
Lusty (adj)	vigorous, energetic	স্বাস্থ্যবান, স্থুল, বলবান	feeble
Luxuriant (adj)	lush, abundant	ফলবান, ফলন্ত, প্রচুর	meager
Magnificent (n)	gallant, splendid	চমকপ্রদ, জাকজমক পূর্ন	abysmal
Malady (n)	problem, disease	রোগ, অসুস্থতা	
Malevolent (adj)	malicious, spiteful	পরশ্রীকাতর, পরের অমঙ্গল কামরা কারী	
Malice (n)	ill will, spite	বিদ্বেষ, অশুভ কামনা	kindness
Malicious (adj)	vicious, spiteful	বিদ্বেষপূর্ন, বিদ্বেষ পরায়ন	kind
Malign (vt)	defame, slander		praise
Malleable (adj)	supple, flexible	নতুন আকায় দেয়া যায় এমন	rigid
Mandate (n)	command, authorization	নির্দেশ, হুকুম	
Mandatory (adj)	obligatory, compulsory	আদেশব্যঞ্জক, কর্তৃত্বব্যঞ্জক	optional

Maneuver (vt. N)	move, step, tactic	কৌশল, কৌশলী পরিচালনা	
Mangle (vt.)	mutilate, smash	বাজেভাবে নষ্ট করা	
Manifold (adj)	various, many	বহুবিধ, বিবিধ	few
Manipulate (vt)	handle, operate		
Manure (vt)	fertilize, dung	সার দেয়া	
Marital (adj)	wedded, conjugal	বিবাহ সংক্রান্ত	
Marvelous (adj)	wonderful, amazing	বিস্ময় করা, চমকপ্রদ**	dire
Massive (adj)	hevy, huge	বিশাল, ভারীদর্শন	infinitesimal
Maxim (n)	proverb, adage	সাধারন নীতি বা নিয়ম বানী, প্রবচন	
Maze (n)	complexity, labyrinth	গোলক ধাঁ ধাঁ, বিহবলতা	
Mean (adj)	inferior, unkind	নীচ, হীন মর্যাদাসম্পন্ন, বিশ্রী	compassionate
Meander (vt)	wind, zigzag, wander	একেঁ বেঁকে বয়ে চলা, এদিকে ওদিকে ঘুরে বেড়ানো	
Meddle (vi)	interfere, intervene	অনধিকার চর্চা করা, হস্তক্ষে করা	
Mediate (vt)	intercede, intervene	মধ্যস্থতা করা	
Mediocre (adj)	ordinary, average	মাঝারি মানের, সাধারন	above-average
Meditative (adj)	thoughtful, pensive	ধ্যান, গভীর চিন্তা	
Meek (adj)	docile,submissive	নম্র ও ধৈর্য্যশীল, অপ্রতিবাদী	assertive
Mend (vt.)	revise, correct	মেরামত করা, ত্রুটিমুক্ত করা	break
Menial (adj)	unskilled, tedious		skillful
Merchandise (n)	commodities, goods	পনদ্রব্য	
Merciful (adj)	compassionate	দয়ালু, করুনাময়	hard-hearted
Merge (vt)	combine, amalgamate	অঙ্গীভূত করা, একীভূত করা	seperate
Merit (n)	advantage, value	প্রশংসনীয় গুন, যোগ্যতা, উৎকর্ষ	disadvantage
Messy (adj)	untidy, dirly	নোংরা, বিশৃংখল	neat
Metabolism (n)	chemical transformation of human body	বিপাক, জীবদেহের রাসায়নিক রূপান্তর	
Methodical (adj)	systematic	পদ্ধতিগত, সুশৃংখল	haphazard
Meticulously (adv)	carefully, scrupulously	অতিসতর্কভাবে, যথাযথ ভাবে	carelessly
Mighty (adj)	powerful, strong	পরাক্রমশালী, প্রকান্ড	weak
Mimicry (n)	camouflage, imitation	অনুকরন, নকল	
Mine (v)	excavate, dig	খনি থেকে উত্তোলন করা, খনন করা	
Minority (n)	underground, marginal	নাবালকত্ব, সংখ্যালঘু	majority
Minute (adj)	tiny, minuscule	আনুঙ্খিক, অতিসূক্ষ	detailed
Miser (n)	collector, saver	কৃপন,কঞ্জুস	generous
Miserable (adj)	unhappy, depressed	দুর্গত, দুঃস্থ, দুর্বিষহ	happy
Miserly (adj)	stingy, tightfisted	ব্যয়কুণ্ঠ, কৃপন	generous
Misery (n)	depression, melancholy	দুর্গতি, দুর্দশা মর্মপীড়া	happiness
Misgiving (n)	scruple, doubt	সন্দেহ, সংশয়, আশঙ্কা	certainty
Mishap (n)	mischance, accident	অঘটন, বিপত্তি, দুর্বিপাক	
Mitigate (vt)	alleviate, relieve	তীব্রতা হ্রাসকরা, উপশমিত করা	aggravate
Mock (n. vt)	mimic, ridicule	তামাশা করা, উপহাস করা	

Moderate (adj)	average, reasonable	পরিমিত, সীমিত, মাঝারি	extreme
Modest (adj)	humble, unassuming	বিনয়ী, নিরহঙ্কার	arrogant
Modify (vt)	change, adapt	বদলে দেয়া, পরিবর্তন সাধন	
Modulate (vt)	change, modify	নিয়ন্ত্রিত করা, সমন্বিত করা	
Moist (adj)	damp, humid	ভেজা ভেজা, ঈষৎ আর্দ্র	dry
Moisten (vt)	dampen	আর্দ্র করা বা হওয়া, ভেজানো	dry out
Mold (v)	shape, cast	ছাঁচ	
Molecule (n)	particle	অণু	
Mollify (vt)	appease, assuage	শান্ত বা প্রশমিত করা, নরম করা	enrage
Momentous (adj)	important, critical	অতিগুরুত্ববহ	trivial
Monarch (n)	kingdom	অধিরাজ, সার্বভৌম	
Monitor (n)	inspector, leader	কর্তৃত্বপ্রাপ্ত ছাত্র, পৃষ্ঠাচার্য	
Monotonous (adj)	boring, dull	একঘেয়ে, বৈচিত্র্যহীন	exciting
Monster (n)	demon	ভয়ঙ্কর দর্শন জীব, পিশাচ	
Morale (n)	ethics	মনোবল, নীতি	
Morbid (adj)	sick, diseased	রুগ্ন, পীড়িত	
Moron (n)	idiot	অল্পবুদ্ধি ব্যক্তি, হীনধী, মূঢ়	intelligent
Mostly (adv)	typically, frequently	প্রধানত, সাধারনত	rarely
Motif (n)	theme, subject	শিল্পাকর্মের প্রধান বৈশিষ্ট্য স্থায়ীসুর	
Motion (n)	movement, action	গতি, চলন, গতিশীলতা	inertia
Motivation (n)	motive,incentive	প্রণোদনা, প্রেরনা	
Muddle (vt)	confuse, make into a mess, upheaval	তালগোল পাকানো, বিশৃংখল করা	
Multitude (n)	host, mass	বিপুল সংখ্যা, জনতা,সমুচ্চয়	
Munificent (adj)	generous, liberal	দানবীর, মহাপ্রান	miserly
Mutation (n)	transformation, change	পরিব্যক্তি, রূপান্তর	
Mysterious (adj)	strange, weird	রহস্যময়, দুর্বোধ্য	
Naval (adj)	marine, nautical	নৌবাহিনী সংক্রান্ত	
Navigation (n)	steering, routing	নৌচালনা, নৌচালন বিদ্যা	
Nearly (adv)	almost, virtually	প্রায়	
Needy (adj)	poor, deprived	অভাবী, দ্রবিদ্র	well-off
Negligence (n)	carelessness	অমনোযোগ, উপেক্ষা	attention
Negligent (adj)	neglectful, careless	অমনোযোগী, যত্নহীন, অবহেলাকারী	attentive
Negotiate (v)	discuss, bargain	আলোচনা বা পরামর্শ করা, দরদস্তুর করা	
Neutral (adj)	nonaligned, impartial	নিরপেক্ষ, প্রশমিত	biased
Neutralize (v)	counteract, defuse	নিরপেক্ষ করা, নিষ্ক্রিয় করা	
Nibble (vt)	bite, eat	ঠোকরানো, খুটে খাওয়া	
Nimble (adj)	agile, brisk	ক্ষিপ্রগামী, তীক্ষ্ণ, তুখোড়	awkward
Nocturnal (adj)	night-time	নিশাচর, নৈশ	
Nod (n. / vi)	consent, approve	মাথা নোয়ানো বা হেলানো, সম্মতি জানাতে মাথা নাড়ানো	disprove
Nominate (vt)	appoint, name, suggest	মনোনয়ন দেয়া, নিযুক্ত করা	
Nonsense (n)	garbage, baloney	অর্থহীন শব্দ, নির্বোধ কথাবার্তা	sense

Nostalgia (n)	reminiscence, homesickness	অতীতবিধুরতা, গৃহকাতরতা	
Notable (adj)	distinguished, celebrated	লক্ষনীয়, স্মরনীয়, উলেখযোগ্য	insignificant
Noted (adj)	distinguished, celebrated	প্রসিদ্ধ, বিখ্যাত, বিশিষ্ট	unnoticed
Notorious (adj)	infamous, disreputable	কুখ্যাত, কুপ্রসিদ্ধ	famous
Novelty (n)	newness, unusualness	নতুনত্ব, অভিনবত্ব	tradition
Novice (n)	beginner, tyro, layman	নিজানবিশ, নবব্রতী	experienced
Noxious (adj)	poisonous, toxic	অনিষ্টকর, ক্ষতিকর, অপকারী	harmless
Nuclear (adj)		কেন্দ্র সম্বন্ধী, পারমানবিক	
Null (adj)	invalid, void	অকার্যকর, বাতিল	valid
Numb (adj)	senseless, dead	নিঃসাড়, অসাড়, অনুভূতিশূন্য	sensitive
Numerous (adj)	many, plentiful	অসংখ্য, বহু, বিপুল সংখ্যক	few
Nurture (vt)	feed, nourish	প্রতিপালন, প্রশিক্ষন দেয়া	
Nutrition (n)	nourishment, diet	পুষ্টিকর খাদ্য	
Oasis (n)	sanctuary	মরুদ্যান, উষর প্রান্তরে মনোরম স্থান	
Oath (n)	oath, pledge, promise	শপথ, শপথ বাক্য, অঙ্গিকার	
Obedience (n)	deference, submission	বাধ্যতা, আজ্ঞানুবর্তিতা	disobedience
Objective (n. adj)	aim, goal	লক্ষ্যবস্তু, উদ্দেশ্য	
Obligatory (adj)	compulsory, necessary	অবশ্য করনীয়, বাধ্যতামূলক	voluntary
Obliging (adj)	helpful, kind	পরোপকারী, সাহায্য করে এমন	inconsiderate
Oblivion (n)	forgetfulness, stupor	বিস্মরন, বিস্মৃতি	awareness
Obscene (adj)	indecent, filhty	অশ্লীল, অশোভন	decent
Obscure (adj)	unclear; unknown, inconspicuous	অন্ধকারময়, অখ্যাত, অস্পষ্ট	obvious
Obscure (v)	hide, cloud, disguise	বিভ্রান্ত	clarify
Observance (n)	ceremony, rite	উদ্‌যাপন	
Obsolete (adj)	disused, outmoded	অপ্রচলিত, সেকেলে	up-to-date
Obstacle (n)	barricr, impediment	বাধা, প্রতিবন্ধক	
Obstruct (vt)	himder, impede	বাধা দেয়া, পথরোধ করা	facilitate
Obtain (vt)	get, find, gain	পাওয়া, অর্জন বা সংগ্রহ করা	lose
Obvious (adj)	distinct, evident	স্পষ্টত প্রতীয়মান, পরিষ্কার	obscure
Odor (n)	smell, scent, fame	গন্ধ, খ্যাতি	
Offensive (adj)	aggressive, combative	যুদ্ধংদেহী	peaceful
Offer (n. vt)	oroposal, suggest, propose	প্রস্তাব করা	
Offhand (adj)	unprepared, impromptu	তাৎক্ষনিক, পূর্বচিন্ত ছাড়া	prepared
Offspring (n)	descendant, children	সন্তান সন্ততি, উত্তরসুরী	
Omit (vt)	exclude, leave out	বাদদেয়া, সম্পাদন করতেনা পারা	include
Onset (n)	attack, beginning	প্রারম্ভ, সূএপাত, আক্রমন	conclusion
Opera (n)	special program of songs	গীতি নাটক, গীতিনির্ভর নাট্যকর্ম	
Operate (vt)	manipulate, steer	চালানো, চালুথাকা, পরিচালনা করা	
Opposed (adj)	opposite, different	বিরোধী, বিরোধীতা	similar
Optimum (adj)	best, most favorable	সবচেয়ে অনুকুল	worst

Opulence (n)	wealth, affluence	বিত্ত, প্রাচুর্য, ধনী, বিত্তবান	poverty
Oracle (n)	prophesy, vision	দৈববাণী, ভবিষ্যৎ দ্রষ্টা ব্যক্তি	
Oration (n)	speech, address	আনুষ্ঠানিক বক্তৃতা, ভাষণ	
Orator (n)	speaker	বক্তা, ভাষাকার	
Orbit (n)	track, path	কক্ষপথ, গ্রহনক্ষত্রের পরিক্রমনপথ	
Orchestra (n)	band, ensemble	ঐকতান বাদকদল, অর্কেষ্ট্রা	
Ordeal (n)	difficult expericnce, trial	অগ্নিপরীক্ষা, সহিষ্ণুতার কঠিন পরীক্ষা	
Ore (n)		আকরিক, বৈঠা	
Organism (n)	life form, creature	পরস্পর সম্পর্কযুক্ত ও সমন্বিতভাবে ক্রীয়াশীল অংশ নিয়ে গঠিত	
Original (adj)	earliest, initial, unique	প্রথম, আদি, সর্বপ্রথম	unoriginal
Originally (adv)	at first, initially	মৌলিকভাবে, নতুনভাবে	
Originate (vt)	initiate, start	কোন কিছু থেকে শুরু হওয়া, উদ্ভাবক হওয়া	
Ornament (n. vt)	decoration, embellishment	অলঙ্করন, অলংকার, গহনা	
Oust (vt)	dismiss, throw out	বিতাড়িত করা, উচ্ছেদ করা	appoint
Outcome (n)	result, consequence	পরিনতি, ফলাফল	
Outfit (n)	costume, suit, equipment	কোন বিশেষ উদ্দেশ্যে প্রয়োজনীয় উপকরন, সজ্জিত করা	
Outing (n)	trip, excursion	প্রমোদ ভ্রমন, ঘরের বাইরে কাটানো ছুটি	
Output (n)	turnout, yield	উৎপাদিত পন্যের পরিমান, শক্তি	
Outrage (v)	anger, offend	চরম সন্ত্রাস, নিষ্ঠুরতা	calm
Outrageous (adj)	offensive, disgraceful	জঘন্য, নীতিবিগর্হিত	calm
Outspoken (adj)	forghright, straight-forward	স্পষ্টবাদী, খোলাখুলি	tactful
Outstanding (adj)	notable, remarkable	বিশিষ্ট	abysmal
Outwit (vt)	outsmart	চালাকিতে পরাস্ত করা	
Overbearing (adj)	arrogant, haughty	কর্তৃত্বপূর্ন, স্বেচ্ছাচারী	humble
Overdue (vt)	tardy, late	নির্ধারিত সময়োত্তীর্ন	timely
Overlook (vt)	ignore, neglect	উপর থেকে দেখতে পাওয়া, উপেক্ষা করা	deal with
Pacify (vt)	appease, placate	শান্ত করা, প্রশমিত করা	aggravate, antagonize
Painstaking (n. adj)	careful, scrupulous	যত্নশীল, কষ্টসহিষ্ণু, পরিশ্রমী	careless
Palatable (adj)	savory, edible	রুচিকর, স্বাদু	Inedible, disgusting
Panacea (n)	cure-all, solution	সর্বরোগ নিরাময়ী ওষুধ, সর্ববিধ সংকটমোচনের উপায়	
Panic (n)	fear, scare	নিয়ন্ত্রনহীন আতঙ্ক	calm
Parade (vt)	procession. mearch	কুচকাওয়াজ করা	
Parallel (vt)	match, similar, equivalent	সমান্তরাল, তুলনা, সমান্তরাল সম্পর্কযুক্ত	dissimilar
Paraphrase (vt)	rewrite	শব্দান্তরিত প্রকাশ	
Parasite (n)	scrounger, freeloader	পরজীবী, পরগাছা	
Partial (adj)	fractional, part	আংশিক, অসম্পুর্ন	complete
Particle (n)	atom, element	কনা, কনিকা, নূন্যতম পরিমান	
Partisan (adj)	follower, supporter	গোঁড়া, অন্ধভাবে অনুগত	opponent
Passionate (adj)	impassioned, fervent	আবেগপ্রবন, প্রবল আবেগপূর্ন	indifferent
Patronage (n)	support, benefaction	সমর্থন, পৃষ্ঠপোষকত,উৎসাহদান	
Peak (n)	summit, zenith	শিখর, চূড়া	nadir, dip

Peck (n)	bite, nibble	ঠোকরানো, শুকনা বস্তুর পরিমাপবিশেষ, খুঁটে বের করা	
Peerless (adj)	matchless, unparalleled	অতুলনীয়, সমকক্ষতাহীন	ordinary
Penal (adj)	punitive, punishing	দন্ডনীয়, শাস্তি সংক্রান্ত	
Penchant (n)	preference, inclination	রুচি, পছন্দ, ঝোঁক	
Pending (adj)	suspending, awaiting	মুলতবি, অমীমাংসিত	
Penetrate (vt)	pierce, see through	বিদ্ধ করা, ভেদ করা, অন্তর্দৃষ্টি দিয়ে দেখা	
Peninsula (n)	neck of land, cape	সামুদ্রিক জলবেষ্টিত উপদ্বীপ	
Pensive (adj)	thoughtful, contemplative	চিন্তামগ্ন, বিষন্ন, বিষাদক্লিষ্ট	thoughtless
Penury (n)	destitution, poverty	দারিদ্র	wealth
Perceive (vt)	discern, see, recognize	অবহিত হওয়া, হৃদয়ঙ্গম করা, উপলব্ধি করা, প্রত্যক্ষ করা	ignore
Perceptive (adj)	discerning, penetrating	উপলব্ধিজাত, উপলব্ধির ক্ষমতাসম্পন্ন	insensitive
Perennial (adj)	permanent, long-lasting, year-round	বর্ষব্যাপী, দীর্ঘস্থায়ী	occassional
Peril (n)	danger, threat	ভয়ানক বিপদ, সমুহ বিপন্নতা	safety
Perilous (adj)	dangerous, hazardous	বিপজ্জনক	safe
Permeate (vt)	penetrate, pervade	প্রবেশ করানো, প্রবাহিত করা	
Permissible (adj)	permitted, allowed	অনুমতিযোগ্য, নৈতিকতার আওতাধীন	unacceptable
Permissive (adj)	lenient, tolerant	সহজে অনুমতি দেয় এমন	strict
Perpetuate (v)	carry on, make perpetual	চিরস্থায়ী করা	put an end to
Perplex (vt)	puzzle, confuse	হতবুদ্ধি করে দেয়া, ধাঁধায় ফেলা	explain
Persevere (vi)	stick with, continue	অধ্যবসায়ী হওয়া, নিরবচ্ছিন্ন মনোযোগে কাজ করে যাওয়া	give up
Persistent (adj)	determined, unrelenting	অনড় অবস্থান গ্রহন কারী, পূনঃ পূনঃ ঘটনশীল	feeble
Personnel (n)	employees	কর্মচারী, কর্মীবৃন্দ, সরকারী দপ্তর বা সামরিক বাহিনীর সদস্য	
Perspective (n)	view, outlook	দৃষ্টরূপ বা আকৃতি	
Persuasive (adj)	incfluencing, convincing	প্ররোচনায় সমর্থ	unconvincing
Pertinent (adj)	relevant, related	প্রাসঙ্গিক, প্রত্যক্ষ সম্পর্ক যুক্ত	irrelevant
Pervade (vt)	permeate, saturate	ব্যাপকভাবে ছড়িয়ে দেয়া, পরিব্যাপ্ত করা	
Pervert (v)	deviate, distort	বিকৃতি সাধন করা, ভুলপথে চালিত করা	straighten
Petition (n vt)	appeal, lobby	আবেদন, প্রার্থনা, আকুল অনুরোধ	
Petrify (vt)	stupefy, terrify	প্রস্তরীভূত বা শিলীভূত হওয়া, শক্তি হরন করা	soothe
Phase (n)	stage, period	পর্যায়, অবস্থার পারম্পর্য, গ্রহের কলা বা দশা	
Phonetics (n)		বাচনের ধ্বনিবিদ্যা	
Picturesque (adj)	vivid, charming	ছবির মতো, চিত্রবৎ, দৃশ্যমান	dull
Pierce (vt)	penetrate, puncture	বিদ্ধ করা, ভেদ করা	
Pilferage (n)	stealing	চুরি	
Pious (adj)	loyal, faithful, devout	ধার্মিক, সাধু, সৎ	irreverent
Pivot (n)	axis, axle	আবর্তন কীলক, কেন্দ্রবিন্দু	
Pivotal (adj)	critical, essential	আবর্তন কীলক সংক্রান্ত বা সদৃশ, কেন্দ্রিয়, নিরতিশয় গুরুত্বপূর্ন	irrelevant
Placate (vt)	appease, pacify	শান্ত, আশ্বস্ত, শমিত করা	enrage
Placid (adj)	tranquil, serene	শান্ত, সুসমাহিত, প্রসন্ন, সৌম্য	noisy, bustling
Plague (vt,n)	annoy, irritate, disease	বিরক্ত করা, মহামারী, মরক	
Plaintiff (n)	applicant, claimant	বাদী, ফরিয়াদি	

Plateau (n)	flat terrain	মালভূমি	implausible
Plausible (adj)	reasonable, believable	যুক্তিসঙ্গত, আপাতদৃষ্টিতে যথার্থ, সত্যপ্রতিম	
Playwright (n)	dramatist, writer	নাট্যকার	
Plea (vt)	appeal, entreaty	কৈফিয়ত, জবাব	
Plead (v)	argue, protest, beg	কারো পক্ষে ওকালতি করা	unpleasant
Pleasing (adj)	blithe, amused	প্রীতিকর, সুখদায়ক, রমনীয়	dissatisfaction
Pleasure (n)	enjoyment, happiness	সুখ, সৌখ্য, প্রীতি, তুষ্টি, আনন্দ	
Pledge (n. vt)	promise, vow	জামানত, বন্ধক, পণ	
Plight (n)	predicament, dilemma	দুর্দশা, দুরবস্থা, গুরুতর ও কঠিন অবস্থা	
Plot (vt)	plan, map out, outline	গোপন পরিকল্পনা, ষড়যন্ত্র, পরিকল্পনা, ভূমিখন্ড	
Plumb (adj)	straight, vertical	ওলন, ওলনদড়ি, যথাযথ	
Plunge (vt)	dive, sink	ঝাঁপ দেয়া, ডুবিয়ে দেয়া, নিমজ্জিত করা	clean
Pollute (vt)	contaminate, defile	দুষিত/কলুষিত/নোংরা করা	
Ponder (vt)	consider, think about	বিবেচনা করা, ভেবে দেখা	light
Ponderous (adj)	heavy, weighty	ভারী, পুথুল, স্থুলকায়	fixed
Portable (adj)	movable, transportable	সুবহনীয়, সহজে বহনযোগ্য	full
Portion (n)	part, fraction	অংশ	
Portrait (n)	representation	অংশ, ভাগ, হিস্যা	
Portray (vt)	delineate, depict	প্রতিকৃতি আঁকা, চরিত্রচিত্রন করা, বর্ননা দান করা	
Pose (vt)	frame, constitute	কাঙ্খিত ভঙ্গিতে স্থাপন করা, উত্থাপন করা	
Posterity (n)	offspring, descendant	বংশধর, অপত্য, সন্তান সন্ততি	
Postpone (vt)	delay, put off	স্থগিত, মুলতবি রাখা, স্থগিতকরন	continue
Posture (n)	pose, bearing	অঙ্গস্থিতি, অঙ্গসংস্থিতি	
Potent (adj)	cogent, powerful	জোরালো, অকাট্য, শক্তিশালী	weak
Potential (adj)	possible,conceivable	সম্ভাব্য, সম্ভাবনীয়	unlikely
Precede (vt. vi)	come before	অগ্রগামী, পূর্বগামী, পূর্ববর্তঅগ্রবর্তী	follow
Precious (adj)	valuable, costly	বহুমূল্য ও অত্যন্ত সুন্দর	worthless
Precise (adj)	accurate, exact	যথাযথ, সমাক, নির্ভুল	vague
Preclude (vt)	prevent, prohibit	নিবারিত বা নিরুদ্ধ করা, অসম্ভব করে তোলা	permit
Precursor (n)	sign, forerunner, pioneer, ancestor	অগ্রদূত, পূর্বলক্ষন	successor
Predominate (vt)	prevail, dominate	প্রবল/প্রধান হওয়া, প্রাধান্য বিস্তার করা	
Preeminent (adj)	prominent, outstanding	সর্বশ্রেষ্ট, সর্বপ্রধান, সর্বোত্তম	
Preferable (adj)	advisable	অধিক বরনীয়, অধিক শ্রেয়	
Preference (n)	inclination, privilege	বিশেষ অনুরাগ, অভিরুচি	
Prelude (n)	preface	প্রস্তাবনা, উপক্রম, পূর্বসূচক	
Premise (vt)	assumption, hypothesis	প্রতিজ্ঞা, তর্কের ভিত্তিস্বরূপউক্তি বাবাক্য	
Preserve (vt)	keep, save	রক্ষা করা, সংরক্ষন করা	
Prestige (n)	fame, reputation	মর্যাদা, সুখ্যাতিজনিত সম্মান	
Presume (vt)	suppose, imagine, assume	অনুমান করা, ধরে নেয়া	
Presumption (n)	assumption, presupposition	অনুমান, অনুমিতি, সম্ভাব্যতা	
Presumptuous (adj)	self-conceited, audacious	অহঙ্কারী, প্রধৃষ্ট	
Pretend (vt)	camouflage, disguise	ভান করা, ছল করা	
Prevail (vi)	dominate	জয়লাভ করা, সাফল্যের	

		সাথে লড়াই করা	
Prevalent (adj)	common, widespread	সাধারন, ব্যাপক, প্রচলিত	rare
Prevent (vt)	block, cumber, hinder, obstruct	নিবৃত্ত করা, নিষেধ করা, প্রতিরোধ করা	allow
Primitive (adj)	crude, original, primordial	আদিম, সেকেলে, সাদামাটা	modern
Privilege (n.)	prerogative, favor	বিশেষাধিকার, বিশেষ অনুগ্রহ বা লাভ	
Probe (v)	investigation, inspection	সরু অস্ত্রবিশেষ, এষনী, তদন্ত	
Probity (n)	integrity, honesty	চারিত্রিক সরলতা, সততা, সাধুতা	wickedness
Proceed (vt)	carry on, go on	অগ্রসর হওয়া, এগিয়ে যাওয়া, শুরু করা	recede
Proclaim (vt)	announce, declare	ঘোষনা, প্রচার	
Prod (v)	poke, spur	খোঁচানো, উৎসাহ দেয়া	
Prodigal (adj)	extravagant, wasteful	অতিব্যয়ী, অকৃপন, অপব্যয়ী	cautious
Prodigious (adj)	colossal, enormous	বিশাল, অতিবৃহৎ	small
Profile (n)	outline, contour, sketch	পার্শ্বচিত্র, মস্তকের পার্শ্বদৃশ্য	
Profoundly (adv)	deeply, greatly	গভীরভাবে,প্রগাঢ় ভাবে	superficially
Profuse (adj)	abundant, exuberant	সুপ্রচুর, উচ্ছ্বসিত, অপরিমিত	scanty
Proliferate (n)	multiply, increase	বংশবিস্তার করা, দ্রুত বিস্তৃত করা, দ্রুত বেড়ে ওঠা	
Prolific (adj)	creative, fertile	প্রচুর পরিমানে উৎপাদনশীল	unproductive
Prolong (vt)	extend, lengthen	প্রলম্বিত, দীর্ঘায়িত, বিস্তৃত করা	curtail
Prominent (adj)	conspicuous, famous	উন্নত, প্রকট, সুপ্রত্যক্ষ	insignificant
Promote (v)	uphold, encourage	পদোন্নতি দান করা, সংবর্ধিত করা	demote
Prompt (adj)	quick, hasty	সত্বর, ত্বরিত, ক্ষিপ্র	slow
Pronounced (adj)	notable, prominent	উল্লেখযোগ্য	
Prop (n. v)	support, mainstay	ঠেস, খুঁটি, অবলম্বন, ঠেস দেয়া, ঠেকা দেয়া	
Propagate (n)	multiply, proliferate, spread	সংখ্যাবৃদ্ধি করা, বংশবিস্তার করা, ব্যাপকভাবে প্রচার করা	
Propel (v)	drive, push forward	সুমুখে চালানো, প্রচলিত করা	
Propensity (n)	inclination, tendency	স্বাভাবিক প্রবনতা, উনুখতা, প্রবৃত্তি	
Proportion (n)	percentage, ration	অনুপাত, সমানুপাত	
Propriety (n)	politeness, decorum	ঔচিত্য, আচরন ও নীতি নিয়মের শুদ্ধতা	
Proscribe (v)	ban, forbid, forestall	নির্বাসিত করা, সমাজচ্যুত করা	
Prosecute (v)	accuse, charge	চালিয়ে যাওয়া, অব্যাহত রাখা, দায়ের করা	
Prospect (n)	Outlook, likelihood, possibility	অনুসন্ধান করা, পরিপ্রেক্ষিত দৃষ্টিপথ, অবারিত দৃশ্য	
Prospective (adj)	expectation, hope, forthcoming	প্রত্যাশিত, আকাঙ্খিত, সম্ভাব্য	
Prosperous (adj)	thriving, flourishing	সফল, সমৃদ্ধ, বর্ধিষ্ণু	poor
Prosperity (n)	well- being, affluence	সমৃদ্ধি, উন্নতি, সৌভাগ্য, সাফল্য	poverty, distress
Protract (v)	lengthen, prolong	বিলম্বিত করা, দীর্ঘায়িত করা	
Protrude (v)	project, stick out	বাইরে প্রসারিত হওয়া বা করা, বহিঃসৃত করা	cut short
Provide (v)	supply, give	প্রদান করা	
Provident (adj)	visionary, farseeing	দূরদর্শী, ভবিষ্যৎচিন্তা, অগ্রদর্শী	short-sighted
Provoke (v)	incite, stir up	রাগানো, ক্ষুব্ধ করা, চটানো	
Proximity (n)	nearness	সমাপ্য, নৈকট্য, সান্নিধ্য	distant

Proxy (n)	deputy, substitute	প্রতিনিধিত্ব, প্রতিনিধিত্ব করার অধিকার	reckless
Prudent (adj)	cautious, careful	সতর্ক, দূরদর্শী বিচক্ষন সুবিবেচক	
Prune (v)	shear, trim	ছেঁটে দেয়া, ছাঁটাই করা	
Puddle (n)	pond, lake	জলসিক্ত ভোবা, কাদা ও বালি মিশ্রিত মাটির লেই	
Punch (vt)	blow, hit	ছিদ্র করা, ঘুসি মারা	mild
Pungent (adj)	acrid, penetrating	বিদ্রুপপূর্ন, তীব্র, কড়া	sell
Purchase (n. vt)	buy, acquire	ক্রয় করা, কেনা	
Purge (vt)	clear, purify	শোধন করা, বিশোধিত করা	modern
Quaint (adj)	queer, odd but attractive	খেয়ালী, অদ্ভুত কিন্তু আকর্ষক	
Quarter (n)	section, one fourth	এক চতুর্থাংশ	
Quartz (n)		শক্ত খনিজ দ্রব্যবিশেষ, সিলিকা	ordinary, normal
Queer (adj)	strange, fishy, surprising	অদ্ভুত, অস্বাভাবিক	
Queel (vt)	quash, suppress	দমন করা	
Query (n. V)	inquiry, question	প্রশ্ন, জিজ্ঞাসা	
Quiver (vt)	shiver, tremble	কম্পিত হওয়া, শিহরিত হওয়া, কাঁপা	
Quota (n)	portion, share	নির্ধারিত অংশ, নির্দিষ্ট	
Radiant (adj)	joyous, beaming	দীপ্তিমান, উজ্জ্বল, আনন্দিত, প্রীতিপূর্ন	unhappy
Radiate (vt)	emit, give off	তাপ বা আলো বিকিরন করা, আনন্দ উৎসাহের বহিঃপ্রকাশ ঘটানো	
Rage (n)	fury, anger	ক্রোধ, উন্মত্ততা	
Ragged (adj)	tattered, scrutfy, foray	বন্ধুর, অসমতল, অসঙ্গতিপূর্ন	pristined
Raid (n. v)	attack, foray	আকস্মিক আক্রমন	
Raise (vt.)	breed, lift, hoist	উত্তোলন করা, উঠানো	drop
Rally (n. v)	gathering, assemblage	একত্র হওয়া, নতুনভাবে উজ্জীবিত করা	
Ransom (n)	payment, redemption	মুক্তিপনের টাকা, মুক্তিপনের মাধ্যমে বন্দিমুক্তি	
Rap (vt.)	tap, knock	দ্রুত হালকা আঘাতের শব্দ, আঘাত করা	
Rapacious (adj)	avaricious, covetous, greedy	লোভী, লোলুপ, হিংস্র	
Rapture (n)	ecstasy, delight	মগ্নতা, উত্তেজনাপূর্ন আনন্দ	
Ratify (vt)	approve, endorse	দৃঢ়ভাবে অনুমোদন করা, সমর্থন করা	disprove
Ration (n)	share, allowance	রেশন, নির্ধারিত ভাতা	
Rational (adj)	Reasonable, balanced	যৌক্তিক, বিচার বুদ্ধি সম্পন্ন	irrartional
Ravage (vt)	devastate, ruin	বিধ্বস্ত বা ধ্বংসে করা, নষ্ট করা	
Ravenous (adj)	famished, starving	বুভুক্ষু, ক্ষুধার্ত	
Raze (vt)	damage, bulldoze	সম্পূর্ন বিনষ্ট বা ধ্বংসে করা	build
Readily (adv)	eagerly; easily	নির্দ্বিধায়, সানন্দে	grudgingly
Realm (n)	field, domain, kingdom	রাজ্য	
Rebate (n.)	refund, repayment	ছাড়, রেয়াত	
Rebel (vt)	Insurgent, revolutionary	বিদ্রোহ করা, তীব্র প্রতিবাদ করা	
Rebuke (vt. N)	censure, reprove	তিরস্কার, ভর্ৎসনা	praise, appreciate
Recall (vt)	recollect, remember	ডেকে পাঠানো, স্মরন করা, মনে করা	forget
Reciprocal (adj)	mutual, exchanged	পরস্পর, পারস্পরিক	one-sided
Reckless (adj)	rash, irresponsible	বেপরোয়া, অসংযত, অপরিনামদর্শী	responsible
Recluse (n)	hermit, loner	সন্ন্যাসী, একান্তবাসী	
Recognition (n)	realization, gratitude	স্বীকৃতি, সনাক্তকরন	
Recognize (vt)	acknowledge, distinguish	সনাক্ত করা, চেনা	

Recoil (vi, n)	retreat, withdraw	পিছু হটা, পিছিয়ে আসা	stand
Recommend (vt)	suggest, counsel	সুপারিশ করা, পরামর্শ দেয়া	
Reconcile (vt)	conform, harmonize	বিরোধ মিটিয়ে ফেলা, মিটমাট করা	
Reconciliation (n)	compromise, pacification	মীমাংসা, মিটমাট	
Recreation (n)	pastime, amusement	বিনোদন, আমোদপ্রমোদ	
Redeem (vt)	rescue, save, redress	পুনরুদ্ধার করা, রক্ষাকরা, ত্রাণ করা	
Redundant (adj)	unnecessary, superfluous	প্রয়োজনাতিরিক্ত, অনাবশ্যক, বাড়তি	adequate
Refined (adj)	elegant, well-mannered	শোধন করা, বিশুদ্ধ করা	coarse
Reflection (n)	indication, revelation	প্রতিফলন, পরাবর্তন, প্রতিবিম্ব	
Reform (vt)	regenerate, restructure	সংশোধন করা, সংশোধন করা	
Refuge (n)	shelter, protection	আশ্রয়, সমাশ্রয়	
Refute (vt)	disprove, rebut	খন্ডন, নিবারন করা, অমূলক বলে প্রতিপন্ন করা	agree
Regimen (n)	treatment	স্বাস্থ্যবিধান	
Rehabilitate (vt)	restore, mend	সংস্কার করা, পূর্বাবস্থায় ফিরিয়ে আনা	
Rehearse (vt)	prepare, try out	মহড়া দেয়া, পুনরাবৃত্তি করা, অনুশীলন করা	
Reign (vt)	govern, rule	রাজত্ব করা, রাজ্য শাসন করা	
Reimburse (vt)	pay back, refund	ব্যয় পরিশোধ করা	
Reinforce (vt)	increase, strengthen	দৃঢ় বা জোরদার করা, অধিকতর শক্তিশালী করা	weaken
Reiterate (vt)	restate, repeat	পুনরাবৃত্তি করা, পুর্নব্যক্ত করা	
Reject (vt)	refuse, turn down	বাতিল করা, ফেলে দেয়া, প্রত্যাখ্যান করা	accept
Relapse (vt)	revert, go back to	পুনরায় পতিত হওয়া বা লিপ্ত হওয়া, পূর্বাবস্থাপন্ন হওয়া	improve
Relentless (adj)	merciless, ruthless, persistent	নির্মম, নির্দয়, অবিশ্রান্ত	gentle
Relevant (adj)	related, pertinent	প্রাসঙ্গিক, সম্পৃক্ত, সম্পর্কিত	irrelevant, impertinent
Reliable (adj)	dependable, consistent	নির্ভরযোগ্য, বিশ্বসযোগ্য	undependable
Relieved (adj)	exempted, comforted	লাঘব করা, মোচন করা, স্বস্তি দেয়া	
Relinquish (vt)	give up, quit	ত্যাগ করা, ছেড়ে দেয়া	retain
Reluctant (adj)	Unwilling, unenthusiastic	অনিচ্ছুক, বিমুখ	Keen
Remedy (n)	cure, rectify	প্রতিকার, প্রতিবিধান, প্রতিষেধক	
Remit (vt)	dispatch, forgive, send	ক্ষমা করা, মওকুফ করা, ছেড়ে দেয়া	
Remote (adj)	distant, inaccessible	দূরবর্তী, দুরস্থ	nearby
Renaissance (n)	reincarnation, regeneration	পুনর্জন্ম, পুনরুজ্জীবন, রেনেসাঁ	
Rend (vt)	apart, separate, tear	বিদীর্ন করা, চেরা	
Render (vt)	provide, deliver , express	প্রতিদানে বা বিনিময়ে দেওয়া, পাওনা পরিশোধ করা	
Renounce (vt)	abandon, reject, give up	আনুষ্ঠনিকভাবে পদত্যাগ করা, ত্যাগ করা, স্বীকার না করা	accept
Renovate (vt)	renew, restore, modernize	সংস্কার করা, নবায়ন করা	
Renowned (adj)	distinguished, famous	প্রখ্যাত, বিখ্যাত, লব্ধপ্রতিষ্ঠ	unknown
Repel (vt)	resist, reject, fend off	তাড়িয়ে দেয়া, গ্রহনে অস্বীকৃতি	attract
Replenish (vt)	fill up, refill	শূন্যস্থান পূরন করা, নতুন সরবরাহ লাভ করা	deplete
Reproach (v)	criticize, reprimand	নিন্দা করা, ভর্ৎসনা করা, গালাগাল করা	praise
Repudiate (v)	reject, renounce	অস্বীকার করা, ত্যাজ্য করা, অস্বীকৃতি জানানো	acknowledge

Repulse (v)	repel	প্রতিরোধ করা, গ্রহনে অস্বীকৃতি জানানো	accept
Repulsive (adj)	revolting, disgusting	বিরক্তিকর, ঘৃন্য, বীভৎস	attractive
Rescue (v)	save, free	উদ্ধার করা, মুক্ত করা, পুনরুদ্ধার করা	abandon
Resemble (v)	look like, similar	সদৃশ হওয়া, মিল হওয়া	differ
Resent (v)	loathe,hate, detest	তিক্ততা অনুভব করা, অসন্তুষ্ট হওয়া	like
Reside (vt)	dwell, live	বসবাস করা	
Residue (n)	remains, leftover, remnant	অবশিষ্টাংশ, বাকী অংশ	
Resist (v)	oppose, withstand	বিরোধীতা করা, প্রতিরোধ করা, ঠেকিয়ে রাখা	accept
Resolute (adj)	determinde, steadfast	দৃঢ় সঙ্কল্প	irresolute
Resolve (vt)	determine	সিদ্ধান্ত গ্রহন করা, স্থির করা	
Respective (adj)	Individual, own	যার যার, নিজ নিজ	
Responsible (adj)	accountable, in charge	নীতিগতভাবে দায়ী, বিশ্বাসী, নির্ভরযোগ্য	
Restore (v)	recover, bring back	ফিরিয়ে দেয়া, ফিরিয়ে আনা	
Restrain (v)	restrict, limit	ধরে রাখা, নিয়ন্ত্রনে রাখা	
Restrict (v)	restrain, limit	সীমিত করা, সীমাবদ্ধ রাখা	
Resume (v)	cintinue, take up	পুনরায় শুরু করা, পুনরায় গ্রহন করা	
Retain (v)	hold, reserve, withhold	অব্যহত রাখা, বজায় রাখা	free, release
Retard (vt)	detain, hold back	দমন করা, প্রতিহত করা	speed up
Retort (v)	refute, reply	জবাব দেয়া, প্রতিবাদ করা	
Retract (v)	take back, withdraw	তুলে নেয়া, প্রত্যাহার করা	
Retrieve (v)	recover, save	ফিরে পাওয়া, ক্ষতিপূরন করা	lose
Reveal (v)	exhibit, expose, disclose	দৃষ্টিগোচর করানো	conceal
Revelation (n)	disclosure	প্রকাশ, গুপ্তকথা ফাঁস	conceal
Revere (v)	respect, worship	গভীরভাবে শ্রদ্ধা করা, পবিত্র হিসেবে শ্রদ্ধা করা	despise
Reverence (n)	respect, veneration	গভীর শ্রদ্ধা, বিস্ময় ও ভয়ের অনুভূতি	contempt
Revive (v)	revitalize, renew	জ্ঞান ফিরিয়ে আনা, স্বাস্থ্যশক্তি পুনরুদ্ধার করা	lose
Revoke (vt)	cancel, repeal	বাতিল করা, প্রত্যাহার করা	maintain
Riddle (n)	puzzle, mystery	প্রহেলিকা, ধাঁধা	
Ridiculous (adj)	ludicrous, absurd	হাস্যকর, উপহাস্য, উদ্ভট	sensible
Rigid (adj)	strict; fixed	অনমনীয়, দৃঢ়, অপরিবর্তনীয়	flexible, floppy
Rigor (n)	rigidity, hardship, rigidity	দৃঢ়তা, কঠোরতা, প্রচন্ডতা	flexibility
Rigorous (adj)	strict, rigid	কঠোর, প্রচন্ড, তীব্র	easy
Rim (n)	edge, border	চাকার কাঠামো, বৃত্তাকার কোন কিছুর প্রান্ত	
Riot (n)	disturbance, disorder, chaos	দাঙ্গা	peace
Rite (n)	ritual, procedure, ceremony	কৃত্য, কৃত্যানুষ্ঠান	
Rival (N)	competitor, foe	প্রতিদ্বন্দ্বী	friend
Robust (adj)	strong, sturdy	স্বাস্থ্যবান, মোটাসোটা, প্রবল	weak
Rotten (adj)	decaying, decomposed	পচা, ক্ষয়প্রাপ্ত, বাজে	fresh
Rudimentary (adj)	undeveloped, elementary, primitive	প্রাথমিক, প্রারম্ভিক, অনুন্নতি	
Rugged (adj)	coarse, rough	বন্ধুর, অমসৃন, কর্কশ	smooth
Rumble (v)	grumble, roar	গুড়ুম, গুড়ুম করা	

Ruminate (v)	meditate, ponder, think over	রোমন্থন করা, জাবর কাটা	
Rupture (n. vt)	burst, breach	বিদারন, ছেদন	
Rustic (adj)	rural, unsophisticated	গ্রামীন, সাদাসিধা, অকপট	urban
Ruthless (adj)	merciless, pitiless	নির্মম, ক্রুর, নিষ্করুন, নির্দয়	merciless
Sacred (adj)	holy, heavenly	ঐশ্বরিক, ধর্মীয়, পবিত্র	secular
Saddle (vt)	burden, load	ভার, দায়িত্ব	relieve
Salvage (vt)	recover, rescue	উদ্ধার কার্য, সম্পত্তি রক্ষা	
Sane (adj)	sensible, reasonable	প্রকৃতিস্থ, সুস্থমস্তিষ্ক	insane
Sanity (n)	good sense, rationality	মানসিক স্বাস্থ্য, সুস্থতা	
Sarcasm (n)	irony, scorn, mockery	শ্লেষ, শ্লেষোক্তি	
Satiate (vt)	satisfy, fill, sate	পরিতৃপ্ত করা, সম্পূর্ন রূপে তৃপ্ত করা	
Satirical (adj)	ironic, sardonic	বিদ্রুপাত্মক, ব্যাঙ্গাত্মক	
Saturate (vt)	soak, imbue	উত্তমরূপে ভেজানো, অভিসিক্ত করা	dry out
Savor (n)	taste, relish	স্বাদ বা গন্ধ, আমেজ, আভাস	
Scandal (n)	disgrace, defamation	কেলেঙ্কারী, লজ্জাকর কাজ, অতিকর গুজব	
Scanty (adj)	sparse, meager	অপ্রতুল, অপর্যাপ্ত, সঙ্কীর্ন	abundant
Scarce (adj)	sparse, limited	দুস্প্রাপ্য, দুর্লভ, অপ্রতুল	available
Scatter (vt)	disperse, spread	ইতস্তত ছড়ানো, ছড়িয়ে দেয়া	organized
Scorch (v)	burn, singe, discolor	ঝলসানো, তাপে বির্বন করা	
Scornful (adj)	disdainful, contemptuous	তাচ্ছিল্যপূর্ন, অবজ্ঞাপূর্ন	respectful
Scruple (vt. N)	hesitation, scrupulousness	বিবেক জনিত সঙ্কোচ বা দ্বিধা	
Scrupulous (adj)	conscientious, meticulous	বিবেকবান, বিবেকদংশী, খুঁতখুঁতে	sloppy
Scrutinize (vt)	examine, inspect	তন্ন তন্ন করে পরীক্ষা করা	
Sear (vt)	burn, scorch	ঝলসে দেয়া, সেকা দেয়া	
Seasoning (n)	flavoring, spice	মশলা, স্বাদন দ্রব্য	
Seclusion (n)	solitude, isolation	নির্জনতা, নিঃসঙ্গতা	crowd
Secrete (vt)	discharge, release	ক্ষরন, নিঃসরন	
Sedate (adj)	calm, composed	অচঞ্চল, শান্ত, প্রসন্ন	boisterous
Seemingly (adv)	apparently, outwardly	আপাতদৃষ্টিতে	
Segregate (vt)	alienate, separate	বিচ্ছিন্ন করা, বিযুক্ত করা	integrate
Seize (vt)	capture, grab	দখল করা, গ্রেপ্তার করা	
Serene (adj)	calm, tranquil	স্থির, শান্তিপূর্ন, প্রশান্ত	bustling
Serenity (n)	calmness, tranquility	প্রশান্তি	bustles
Sermon (n)	speech, lecture, oration	ধর্মোপদেশ, হিতোপদেশ	
Sever (vt)	separate, split	কাটা, বিচ্ছিন্ন করা, ছিড়ে যাওয়া	unite
Severe (adj)	grave, grievous	কড়া, কঠোর, তীব্র	gentle, easy
Shabby (adj)	scruffy, ragged, tattered	জীর্ন, মলিন, ছেঁড়াখোঁড়া	elegant
Shallow (adj)	superficial, trivial, unclear	অগভীর, ভাসাভাসা	profound
Shatter (n. vt.)	fragment, break	চুর্নবিচুর্ন করা, চুরমার করা	unite
Shear (vt)	cut, prune	ছাঁটা, বঞ্চিত বা নিঃস্ব করা	
Sheathe (vt)	cover, encase	খাপে ভরা, কোষবদ্ধ করা, যুদ্ধবন্ধ করা	
Sheer (adj)	pure, total	সম্পূর্ন, নিছক, নির্ভেজাল	
Shield (v)	protect	রক্ষক, ঢাল, রক্ষা, করা নিরাপদ রাখা,	uncover
Shove (vt)	push, jostle	ঠেলা বা ধাক্কা দেয়া	
Shrewd (adj)	clever, smart	বিচক্ষন, তীক্ষ্নবুদ্ধি, চৌকশ, ভুখোর	naive
Shrink (vi)	contract, dwindle	সংকুচিত হওয়া, খাটো হওয়া	grow, increse

Shun (vt)	avoid, eschew	দূরে থাকা, পরিহার করা	court
Siege (vt)	besiege, encircle	অবরোধ করা	
Sigh (vi)	moan, groan	দীর্ঘশ্বাস ফেলা	
Signify (vt)	indicate, mean	জানানো, গুরুত্বপূর্ণ হওয়া	Original
Simulate (vt)	feign, fake, replicate	ভান করা, ছদ্মবেশ ধারন করা	
Simultaneously (adv)	at the same time	যুগপৎ ভাবে	
Sinister (adj)	wicked, evil	অশুভ, অমঙ্গলসূচক, অপকারী	
Skeptic (n)	cynic, disbeliever	সংশয়বাদী, সংশয়াত্মা, সংশয়ী মন	convinced
Skeptical (adj)	dubious, incredulous	সন্দেহ প্রবন, সংশয়বাদী	
Sketch (n. v)	drawing, chart; compose	নকশা, নক্সা তৈরী করা, রূপরেখা তৈরী করা	
Skimpy (adj)	scant, inadequate	কৃপনহস্ত, কৃপন	generous
Slacken (vt)	loosen, slow down	ঘাটতিমানো, কাজে ঢিলা দেয়া	tighten
Slander (vt)	defame, malign	মিথ্যা কলঙ্ক, অপবাদ	compliment
Sloppy (adj)	muddled, shaddy	কর্দমাক্ত, নোংরা পানিভরা ছোট গ র্তেভরা	
Slovenly (adj)	untidy, sloppy	অগোছালো, নোংরা	tidy
Sluggish (adj)	lethargic, listless	নিষ্ক্রিয়, মন্থরগতি	lively
Slump (vt)	droop, lapse	ধপ করে বসে পড়া, আকস্মিকভাবে হ্রাস পাওয়া	
Smother (v)	stifle, suffocate	শ্বাসরোধ করে হত্যা করা	
Snag (n)	disadvantage, obstacle	অজানা বা অপ্রত্যাশিত বাধা বিপত্তি	
Sneak (vt)	lurk, skulk, steal	নিঃশব্দে চোরের মত চলা, চুরি করা	
Sneer (vt)	scoff, scorn	বিদ্রুপ করা, অবজ্ঞা করা	
Snobbish (adj)	snooty, superior	নিম্নতর সামাজিক অবস্থানের ব্যক্তিকে ছোট করে এমন ব্যক্তি	humble
Sober (adj)	solemn, grave, abstemious	আত্মনিয়ন্ত্রিত	uncouth
Sociable (adj)	gregarious, friendly	মিশুক, সঙ্গপ্রিয়, বন্ধুভাবাপন্ন	hostile
Sojourn (vt)	stay, break, halt	কিছুকালের জন্য থাকা	
Solemn (adj)	grave, somber	আনুষ্ঠানিক, ভাবগম্ভীর	cheerful, informal
Solicit (vt)	request, demand	অনুরোধ করা, সনির্বন্ধ আবেদন করা	
Solicitous (adj)	concerned, anxious	উৎকণ্ঠিত, ব্যগ্র, উদগ্রীব	
Solitary (adj)	lonesome, isolated	নিঃসঙ্গ, নির্জন	social
Solitude (n,)	isolation, loneliness	নিঃসঙ্গতা, একাকীত্ব, নির্জনতা	
Soothe (vt.)	appease, relieve, pacify	শান্ত বা প্রশমিত করা, উপশম করা	excite, aggravate
Sovereignty (n)	dominion, control	সার্বভৌম ক্ষমতা	
Spawn (vt)	generate, produce	ডিম ছাড়া, সৃষ্টিকরা, জন্ম দেয়া	
Specimen (n)	sample, instance	নমুনা, নিদর্শন, পরীক্ষনীয় বস্তু	
Spectacular (adj)	breathtaking, impressive	জমকালো, সমারোহ পূর্ন	humdrum
Spectator (n)	viewer, audience	দর্শক	
Speculate (vi)	hypothesize, conjecture	ভাবা, অনুমান করা, ধারনা করা	
Spine (n)	backbone	মেরুদন্ড	
Splendid (adj)	magnificent, impressive	জমকালো, চমৎকার, অত্যন্ত সন্তোষজনক	unimpressive
Splendor (n)	grandeur, magnificence	চমৎকারিত্ব	
Spoil (vt)	decay, ruin	অতিরিক্ত করা, অকেজো করা	ruin

Spontaneous (adj)	impulsive, involuntary	স্বতঃস্ফূর্ত	prompted
Sporadic (adj)	irregular, intermittent	বিক্ষিপ্ত	regular
Spouse (n)	partner, mate	স্বামী বা স্ত্রী	
Sprawl (n. Vt)	spread, stretch	হাত পা ছড়িয়ে বসা, এলোমেলো ছড়িয়ে পড়া	
Sprout (vt)	bud, burgeon, germinate	পল্লবিত হওয়া, পাতা গজানো	
Spurt (v.)	burst, explosion	অকস্মাৎ সবেগে নির্গত বা উৎসারিত হওয়া	
Squabble (n)	quarrel, argument	অতি সাধারন বিষয়ে তুমুল ঝগড়া	
Squander (vt.)	dissipate, waste	অপব্যয় করা, বোঁহসাবী খরচকরা	save
Squeeze (n)	cram, press	চাপ সৃষ্টি, ঠেসপ্রদান	
Stable (adj)	immobile, steady	দৃঢ়, সুস্থিত	rickety
Stale (adj)	smelly, musty, flat	বাসি, শুকনা, নীরস	fresh
Stalk (v. n)	trace, stem	ধীর, দৃঢ় ও সদম্ভ পদক্ষেপে হাঁটা	
Startle (vt. N)	amaze, surprise	আকস্মিক বিস্ময়ে চমকে ওঠা	
Starve (v)	go hungry	ক্ষুধায় মৃত্যুমুখে পতিত হওয়া	
Steadfast (adj)	firm, unchanging	দৃঢ়, অপরিবর্তিত, অবিচলিত	irresolute
Sterile (adj)	barren, arid, infertile, sanitary	নিষ্ফলা, বন্ধ্যা	productive
Stern (adj)	harsh, hard, strict	কঠোর অনমনীয়, এবং আনুগত্য প্রত্যাশী	easygoing
Stimulate (vt)	motivate, encourage, incite, actuate	উদ্দীপিত করা, উত্তেজিত করা	dampen
Stingy (adj)	miserly, ungenerous	কৃপণ, ব্যয়কুণ্ঠ	generous
Stipulate (vt)	set, specify	প্রয়োজনীয় শর্ত হিসেবে কোন কিছু উপস্থাপনা করা	
Stocky (adj)	sturdy, thickset	মোটা সোটা	slight
Stodgy (adj)	dull, boring, heavy	ভারী ও স্নেহপদার্থপূর্ন ভুরিভোজ	light
Stout (adj)	strong, sturdy	মজবুত, শক্ত, দৃঢ়হৃদয়	slim
Strain (n)	stress, tension, species	প্রসারন, টান টান অবস্থা	
Strait (n)	channel, passage	সংযোগ কারী সংকীর্ন জলপ্রবাহ বা ধারা	
Strap (n)	fastening, band	চামড়া বা শক্ত কাপড়ের সরু ফিতা	
Strenuous (adj)	energetic, laborious	বিপুল প্রচেষ্টা, তেজপূর্ন	easy, light
Stride (vt)	step, pace	লম্বা পদক্ষেপে অতিক্রম করা	
Strife (n)	squabble, conflict	বিবাদ, দ্বন্ধ, ঝগড়া	
Stringent (adj)	strict, rigid	কঠোর সুদৃঢ়, কট্টর	flexible
Strip (vt. N)	deprive, takeoff	খুলে ফেলা, দূর করা	
Strive (vi)	endeavor, struggle	লড়াই করা, সংগ্রাম করা	
Stubborn (adj)	obstinate	একগুঁয়ে, জেদী	flexible
Stuffy (adj)	airless, stale	শ্বাসরুদ্ধকর, হতবুদ্ধি করা	airy
Stun (vt)	astonish, daze	সংজ্ঞা লোপ করা, হতবুদ্ধি করা	
Sturdy (adj)	strong, stout	বলিষ্ঠ, মজবুত	frail
Sublimate (vt)	elevate, refine	উর্ধ্ব পাতন করা	
Submerge (vt)	sink, immerse	নিমজ্জিত করা, প্লাবিত করা	
Submissive (adj)	obedient, meek	বশ্য, বাধ্য, অনুগত	assertive
Subsequent (adj)	following, later	পরবর্তী, উত্তর কালীন	preceding
Subsidiary (v adj)	branch, supplementary	সহায়ক, সম্পুরক, অধীন	main
Subsist (v)	live, survive	জীবন নির্বাহ করা, বেঁচে থাকা	
Substantial (adj)	plentiful, considerable	সুদৃঢ়, সুসংহত	trivial
Substantiate (vt)	corroborate, verify	প্রমান করা, তথ্য উপস্থিত করা	

Subvert (vt)	destroy, undermine	মানুষের আস্থা, বিশ্বাস নষ্ট করা	lengthy
Succinct (adj)	terse, concise	সংক্ষিপ্ত, সংহত	
Succumb (vt)	submit, yield	বশীভূত হওয়া, মারা যাওয়া	
Suffuse (v)	fill, saturate	ধীরে ধীরে ছড়িয়ে দেয়া, ব্যাপ্ত করা	cheerful
Sullen (adj)	moody, bad- tempered	চাপা ক্রোধযুক্ত, বিরূপ	nadir
Summit (n)	peak, top	শীর্ষ, চূড়া	
Summon (vt)	call, send for	তলব করা, ডেকে পাঠানো	abysmal
Superb (adj)	excellent, outstanding	চমৎকার, অত্যুৎকৃষ্ট	
Supersede (vt)	replace, substitute, succeed	স্থান অধিকার করা	
Superstition (n)	false notion, fallacy	কুসংস্কার, অন্ধবিশ্বাস	
Supplant (vt)	replace, displace	উচ্ছেদ করা, স্থান দখল করা	rigid
Supple (adj)	flexible, lithe	নমনীয়, কোমল, সংবেদনশীল	
Surmise (vt)	guess, speculate	আন্দাজ, অনুমান করা	
Surmount (vt)	conquer, overcome, exceed	কাটিয়ে ওঠা	
Surpass (vt)	exceed, surmount	ছাড়িয়ে যাওয়া, অতিক্রম করা	follow
Surplus (n. adj)	extra, excess	উদ্বৃত্ত, অবশিষ্ট	essential
Susceptible (adj)	vulnerable, exposed	সহজগ্রাহী, গ্রহনশীল	impervious
Suspicion (n)	doubt, distrust	সন্দেহ, সংশয়	trust
Suspicious (adj)	dubious, fishy	সন্দেহভাজন, সন্দিগ্ধ	trusting
Sustain (vt)	stand, keep	ধরে রাখা, তুলে রাখা	quit
Swarm (n)	throng, crowd, horde	ঝাঁক, দল	
Swell (vt)	expand, inflate	ফুলে ওঠা, স্ফীত হওয়া	decrease
Symmetry (n)	balance, harmony	প্রতিসাম্য, ভারসাম্য	asymmetry
Symptom (n)	sign, indication	রোগলক্ষন, লক্ষন	
Synchronize (vt)	concur, harmonize	সমকালীন	
Synopsis (n)	outline, summary	সারাংশ, রূপরেখা	
Synthetic (adj)	artificial, manmade	সংশ্লেষী	
Taboo (n. vt)	ban, prohibition	নিষিদ্ধ	accepted
Tacit (adj)	unspoken, implicit	নীরব, মৌন	explicit
Tact (v)	diplomacy, thoughtfulness	কৌশল, সুবুদ্ধি	clumsiness
Tactics (n)	plans, strategy	উপায়, কৌশল, চাতুরী	
Tag (n)	label, tab	জুতার ফিতা, মুড়ি, চিরকুট	
Tally (vt)	compute, count	হিসাব গননা	
Tamper (vt)	interfere, intervene	হস্তক্ষেপ করা	
Tangible (adj)	touchable, substantial	স্পর্শ দ্বারা বোধগম্য, বাস্তব	intangible
Tangle (vt)	knot, snarl	চামড়ার মত দেখতে সামুদ্রিক শৈবাল	
Tantalize (vt)	provoke, tease	লোভ দেখানো	
Tardy (adj)	late, slow	ধীর, ধীরগতিসম্পন্ন	prompt
Tarnish (vt)	darken, discolor	নিষ্প্রভ হওয়া, নিষ্প্রভ করা	enhance, brighten
Taste (n)	flavor, savor	স্বাদ, আস্বাদনের উপলব্ধি	
Taunt (n.vt)	tease, insult	বিদ্রুপ, বিদ্রুপ করা	
Tedious (adj)	tiresome, boring	ক্লান্তিকর, বিরক্তিকর	interesting
Teem (vi)	abound, be full of	অনেক সংখ্যায় বর্তমান থাকা, প্রবল বর্ষন হওয়া	disperse
Temperament (n)	disposition, nature	মেজাজ, প্রকৃতি	
Temperance (n)	self-control, moderation	মিতাচার, সংযম	excess
Temperate (adj)	appropriate,reasonable,	সংযত, মিতাচারী	extreme

	self-controlled		
Temporal (adj)	transient, momentary	সময়গত, পার্থিব	parmanent
Tempt (vt)	lure, entice	প্রলুব্ধ করা, প্রলোভন দেখানো	put off
Tenacious (adj)	stubborn, resolute	নাছোড়বান্দা, ধৈর্যশীল	irresolute
Tenant (n)	occupant, inhabitant	ভাড়াটে, প্রজা	
Tendency (n)	inclination, trend	প্রবনতা, ঝোঁক	
Tender (adj)	soft, delicate	কোমল, নাজুক	rough
Tense (n. Adj)	nervous, strained	টান টানভাবে প্রসারিত, উত্তেজনাপূর্ণ	relaxed
Tentative (adj)	temporary, trial	পরীক্ষামূলক, আপাততঃ স্থিরকৃত	definite
Tenuous (adj)	thin, weak	ক্ষীন, সরু	strong
Tepid (adj)	lukewarm, halfhearted	নিরুৎসাহী	enthusiastic
Terminate (vt)	end, finish, conclude	সমাপ্ত করা, ইতি টানা	start
Terrify (vt)	frighten, horrify	আতঙ্কিত করা, ভয় পাইয়ে দেয়া	comfort
Terror (n)	fear, horror	অত্যাধিক ভীতি, সন্ত্রাস, আতঙ্ক	security
Testify (vt)	give evidence, verify	সাক্ষ্য দেয়া, প্রমানের কাজ করা	
Testimony (n)	evidence, affirmation	বিবৃতি	
Thaw (vi. / vt)	melt, defrost	গলা	
Theft (n.)	stealing	চুরি	
Thesis (n)	theory, notion	প্রতিপাদ্য, সমর্থনীয় তত্ত্ব	
Threaten (vt)	menace, terrify	হুমকি দেয়া, শাসানো	
Thrift (n)	economy, frugality	মিতব্যয়ীতা, ব্যয়সঙ্কোচ	extravagance
Thrive (vi)	flourish	সমৃদ্ধিলাভ করা, সাফল্য অর্জন করা	deteriorate
Throng (n.)	crowd, swarm	ভিড়, জনতা, লোকারণ্য	disperse
Thrust (vt)	push, shove	ধাক্কা মারা, ঠেলা দেয়া	
Tide (n)	surge, wave	জোয়ার ভাটা	
Tilted (adj)	slanted, skewed	হেলানো	straight
Timid (adj)	nervous, shy	ভীরু, লাজুক	bold
Tint (vt)	tinge, hue	ছোপ, রঙের আভা	
Tiny (adj)	microscopic, imnute	অতি ক্ষুদ্র, পুঁচকে	huge, mammoth
Titanic (adj)	huge, immense	বিশাল, দানবীয়, প্রকান্ড	infinitesimal
Tolerable (adj)	bearable, endurable	সহনীয়, চলনসই	intolerable
Tolerate (vt)	bear, put up with	সহ্য করা, বরদাশত করা	forbid
Torment (n. vt)	anguish, agony	নিদারুন যন্ত্রনা, বিরক্ত করা	pleasure
Torpid (adj)	lethargic, sluggish	অকর্মা, চলাফেরায় অনিচ্ছুক	energetic
Touching (adj)	moving, impressive	করুন, করুনভাবে	
Touchy (adj)	annoyed, offended	অভিমানী, অভিমান	even-tempered
Trace (n. v)	remnant, sign	কেউ আছে, কোন চিহ্ন, ইত্যাদি	
Tractable (adj)	obedient, dutiful	সহজে নিয়ন্ত্রনযোগ্য	disobedient
Tragedy (n)	disaster, calamity	বিয়োগান্ত নাটক, অভিজ্ঞতা	
Trait (n)	characteristic, attribute	চারিত্রিক বৈশিষ্ট্য	
Traitor (n)	betrayer, conspirator	বিশ্বাসঘাতক	loyalist
Tranquil (adj)	serene, quiet	শান্ত, চুপচাপ	noisy
Transact (vt)	deal, manage	পরিচালনা করা, লেনদেন করা	
Transaction (n)	business, trade, deal	লেনদেন	
Transcend (vt)	surpass, go beyond	অতিক্রম করা	trail
Transfix (vt)	pierce, impale	বিদ্ধ করা, অবশ করে দেয়া	
Transform (vt)	change, transmute	রূপান্তরিত করা	keep
Transition (n)	change, shift	ক্রান্তিকাল, পরিবর্তনমূলক	

Transitory (adj)	temporary, momentary	স্বল্পকালস্থায়ী	parmanent
Transparent (adj)	clear, limpid	স্বচ্ছ	opaque
Transpire (vt)	exhale, sendout	প্রকাশিত হওয়া, জানাজানি হওয়া	unrevealed
Trash (n)	rubbish, garbage, refuse, waste	বাজে জিনিস অথবা লেখা	
Traverse (vt)	span, stretch across	মাঝ দিয়ে অতিক্রম করে যাওয়া	
Treason (n)	treachery, sedition	রাজদ্রোহিতা প্রতারনা, বিশ্বাস ঘাতকতা	allegiance
Tremble (vi)	shake, shiver	কেঁপে ওঠা, শিউরে ওঠা	
Tremendous (adj)	wonderful, huge	সুন্দর, শক্তিশালী	awful
Tremor (n)	tremble, shake	কাঁপন, দোলা, ভূ-কম্পন	
Trend (n)	tendency, propensity	গতিধারা, প্রবনতা	
Trepidation (n)	apprehension, alarm	সতর্কিতভাবে, উত্তেজিত মনোভাব	equanimity
Trial (n)	hearing, inquisition	পরীক্ষা-নিরীক্ষা, বিচার বিবেচনা	
Trickle (vi, n)	dribble, drip	টিপ টিপ করা, ক্ষীন ধারায় অবস্থিতি হওয়া	flood
Trifling (adj)	petty, trivial	তুচ্ছ	significant
Triumph (n)	victory, achievement	বিজয়, সাফল্য, বিজয়োল্লাস	failure
Trivial (adj)	unimportant, trifling	সামান্য, তুচ্ছ, অকিঞ্চিতকর	significant
Trot (vi, n)	jog	কদম চাল, ছোট ছোট পা ফেলে চলা	
Trudge (vt)	plod, trek	অবসন্নভাবে পা টেনে টেনে হাঁটা	
Trying (adj)	difficult, grueling	যন্ত্রনাদায়ক, পীড়াদায়ক	soothing
Turbulent (adj)	violent, rowdy	অশান্ত, উথাল, উত্তাল	peaceful
Turmoil (n)	disorder, chaos	গোলযোগ, হাঙ্গামা	order
Twig (n)	small branch	গাছের ছোট ডাল, উপশাখা, শাখিকা	
Typical (adj)	ordinary	নমুনা, আদর্শস্বরূপ, বৈশিষ্ট্য সূচক	uncharacteristic
Ultimate (adj)	final, eventual	শেষ, চূড়ান্ত, পরম, চরম	first
Unanimity (n)	harmony, accord	ঐকমত্য, সর্বসম্মত	discord
Unbecoming(adj)	improper, inappropriate	বেমানান	fitting
Unbiased (adj)	neutral, impartial	নিরপেক্ষ, পক্ষপাতহীন	biased, partisan
Unblemished (adj)	flawless, perfect	নিষ্কলঙ্ক, নির্মল	flawed
Uncanny (adj)	odd, strange, weird	অনৈসর্গিক, উদ্ভট	
Unconscious (adj)	comatose, insensible	অচেতন, অজ্ঞান	awake
Unconventional (adj)	eccentric, unusual	প্রথাবিরোধী, সাধারন নয়, গতানুগতিকামুক্ত	conventional
Undaunted (adj)	intrepid, fearless	অকুতোভয়, নির্বিশঙ্ক	scared
Undo (vt)	cancel, annul	খোলা, পূর্বাবস্থায় ফিরিয়ে আনা	fasten
Unearth (vt)	uncover, exhume	উদঘাটন করা, মাটি খুঁড়ে বের করা	cover up
Unfair (adj)	unjust, partial	অন্যায়, অনুচিত	fair, just
Unique (adj)	unrivaled, exclusive	অদ্বিতীয়, একমাত্র, অনন্য	common
Unruly (adj)	uncontrollable, disorderly	উশৃঙ্খল, অবাধ্য	well-behaved
Unseemly (adj)	unsuited, incongruous	অশোভন, অনুচিত	proper
Unveil (v)	disclose, reveal	অবগুন্ঠন খোলা	conceal
Uphold (vt)	support, sustain	সমর্থন করা, অনুমোদন করা, বহাল রাখা	refute
Upright (adj)	vertical, upstanding	ঋজু, সিধা	horizontal
Uprising (n)	rebellion, revolution	বিদ্রোহ, অভ্যুত্থান	
Uproar (n)	disturbance, commotion	হৈ চৈ, হট্টগোল,	order
Upset (adj)	disturbed, distressed	বিপর্যস্ত	composed
Urban (adj)	municipal, metropolitan	নাগরিক, শহুরে	rural
Urge (vt. N)	encourage, impel, press	তাড়া দেয়া	

Utility (n)	function, usefulness	উপযোগীতা	
Utilize (vt)	use, make use of	সদ্ব্যবহার করা, কাজে লাগানো	Waste
Vacant (adj)	unoccupied, empty	খালি, শূন্য	occupied
Vague (adj)	obscure, ambiguous	অস্পষ্ট, আবছা	clear
Valiant (adj)	courageous, dauntless, intrepid	বীর, সাহসী, পরাক্রমশালী	cowardly
Valid (adj)	soundly-based, acceptable	বৈধ, কার্যকর	invalid
Valor (n)	bravery, courage	সাহস, বিক্রম	cowardice
Vanish (vt)	disappear, fade	অপসৃত হওয়া, মিলিয়ে যাওয়া	appear
Vanity (n)	self-conceit, pride	অহঙ্কার, দম্ভ	humility
Vanquish (vt)	conquer, overcome	পরাস্ত করা, পরাভূত করা	surrender
Variation (n)	alteration, change	ভেদ, ভিন্নতা	similarity
Varnish (n)	gloss, polish	বার্নিশ	
Vary (vt)	differ, deviate from	ভিন্নরূপ হওয়া, হেরফের করা	conform
Vast (adj)	gigantic, huge, immense	বিশাল, বিস্তৃত, বিস্তীর্ন	tiny
Vehemence (n)	passion, ferocity	প্রচন্ডতা, প্রচন্ড	
Vehement (adj)	passionate, ardent	প্রবল, ব্যগ্র, প্রবন্ড	
Vein (n)	blood vessel	শিরা, রগ	
Venerate (vt)	respect, revere	গভীর ভাবে শ্রদ্ধ করা, ভক্তি করা	scorn
Ventilation (n)	airing	বায়ুচলন	
Venture (n. vi)	risk, project	স্পর্ধা, ঝুঁকিপূর্ন উদ্যোগ	
Verdict (v)	decision, judgment	নির্নয়, জুরির সিদ্ধান্ত	
Verify (vt)	comfirm, substantiate	সত্যতা যাচাই করা	disprove
Versatile (adj)	many sided, talented, all around	নানাবিধ বিষয়ে আগ্রহী ও কুশলী	limited
Verse (n)	poetry, rhyme	পদ্য, ছন্দ, চরন	
Vestige (n)	remnant, trace	চিহ্ন, নামগন্ধ, লেশমাত্র	
Veteran (v)	ex-serviceman, old soldier	যুদ্ধপ্রবীন, বহুদর্শী	novice
Veto (n. V)	rejection, negate	প্রবারন, ভোটে দেয়া, নিষিদ্ধ করা	
Vex (vt)	annoy, irritate	বিরক্ত বা জ্বালাতন করা	comfort
Vigilant (adj)	watchful, alert	সতর্ক, হুশিয়ার	oblivious
Vigor (n)	energy, enthusiasm	তেজ, বলিষ্ঠতা	lethargy
Vigorous (adj)	energetic	তেজস্বী, তেজীয়ান	lethargic
Vindicate (vt)	justify, support	প্রমান বা প্রতিপাদন করা	
Violate (vt)	infringe, defy, breach	অমান্য করা	obey
Violation (n)	infringement, defiance	লঙ্ঘন, ভঙ্গ, মর্যাদাহানি	
Violent (adj)	vehement, radical, aggressive	প্রচন্ড, অত্যুগ্র, প্রবল	peaceful, calm
Virtually (adv)	practically, actually	কার্যত, প্রকৃত, প্রস্তাবে	
Virtue (n)	morality, goodness	গুন, সদগুন	vice
Virtuous (adj)	moral, righteous	পবিত্র, সৎ, পূর্ন	bad
Vital (adj)	important, crucial	জীবন সম্পৃক্ত, জৈবনিক	insignificant
Vivid (adj)	lively, active	উজ্জল, তীব্র, প্রানবন্ত	dull
Vocation (n)	occupation, profession	প্রেরনা, বৃত্তি, পেশা, জীবিকা	
Vogue (n)	fashion	হাল ফ্যাশন, কেতাদুরস্ত	
Void (n. adj)	space, invalid, null	শূন্য, রিক্ত	valid
Voluntary (adj)	free, unforced	স্বতঃপ্রবৃত্ত, স্বেচ্ছাপ্রনোদিত	forced
Volunteer (n)	unpaid worker	স্বেচ্ছাকর্মী, স্বেচ্ছাসেবক	

Vulgar (adj)	coarse, ill mannered	কুরুচিপূর্ন, স্থূল, অমার্জিত	decent
Vulgarity (n)	offensiveness	স্থূলতা আচরন, অশিষ্টাচার	decency
Vulnerable (adj)	susceptible, defenseless	অরক্ষিত, আঘাতগ্রস্থ হতে পারে এমন	invincible, impervious
Waddle (vt)	stagger	হেলেদুলে চলা, হংসগমন	
Wade (vi.)	paddle, ford	অতি কষ্টে চলা, অতি কষ্টে অতিক্রম করা	
Wag (vt)	waggle, wiggle	নড়া, নাড়া	
Wand (n)	stick, club	জাদুদন্ড, সঙ্গীত নির্দেশনার জন্য ব্যবহৃত ছোট লাঠি	
Wane (vi)	diminish, dwindle, decline	ক্রমশ হ্রাস পাওয়া, ক্ষীনকায় হওয়া	expand
Ware (n)	pottery	নির্মিত পন্যসামগ্রী	
Warily (adv)	cautiously, carefully	সতর্কভাবে	thoughtlessly
Warn (vt)	admonish, alarm	সতর্ক করে দেয়া	
Warrant (n)	license, permit	ন্যায্যতা বা কর্তৃত্ব	
Warranty (n)	guarantee, permit	কর্তৃত্ব, গ্যারান্টি, নিশ্চয়তা	
Wary (adj)	cautious, careful	সতর্ক	careless
Waver (vt. Vi)	swing, hesitate	দোদুল্যমান হওয়া, টলতে থাকা	
Weird (adj)	bizarre, erratic, eccentric	অস্বাভাবিক, ভূতুরে, রহস্যময়	natural
Welfare (n)	boon, wellbeing	কল্যান, মঙ্গল	
Wheedle (vt)	cheat, hoodwink	মিষ্টি কথায় ভুলিয়ে কিছু আদায় করা	
Whim (n)	fancy, impulse	খেয়াল, বাতিক	
Wholesome (adj)	healthful, nutritious	স্বাস্থ্যবান, স্বাস্থ্যকর	unhealthy
Wield (vt)	exert, exercise	অধিকারী হওয়া বা ব্যবহার করা	
Wistful (adj)	desirous, yearning	বিষন্ন ও ব্যাকুল, অতৃপ্ত	satisfied
Wit (n)	humor, cleverness	বোধশক্তি, বুদ্ধি	
Wither (vi, vt)	wilt, fade, shrivel	শুকিয়ে যাওয়া, বিবর্ন হওয়া	bloom
Witness (vt. N)	see, observe	প্রত্যক্ষদর্শী, সাক্ষী	
Witty (adj)	clever, brilliant	রসিক, রসালো	dumb
Worldly (adj)	earthly, mundane	পার্থিব, জাগতিক	
Worthy (adj)	valuable, praiseworthy	প্রশংসার যোগ্য, প্রশংসনীয়	lamentable
Wrath (n)	anger, indignation	তীব্র ক্রোধ, ভয়ানক রোষ	
Wring (vt)	squeeze, twist	মোচড়ানো, পাকানো	
Wry (adj)	cynical, ironic	বিকৃত, মোচড়ানো	
Yearn (vt)	long, crave, aspire	তীব্র আকাঙ্খা বোধ করা	
Yell (vt)	shout, yelp	উচ্চস্বরে চিৎকার করা	
Yelp (vt)	scream, shout	তীক্ষ্ণ কণ্ঠে চিৎকার করা	
Yoke (v)	join together, unite	একত্রিত হওয়া	
Zany (adj)	crazy, comic	হাস্যকর	
Zeal (n)	zest, enthusiasm	সতেজতা ও উদ্দীপনা	apathy
Zealot (n)	fanatic, bigot	অন্ধ সমর্থক, গোঁড়া মৌলবাদী	skeptic
Zealous (adj)	enthusiastic, fervent	উদ্দীপনাময়, আগ্রহোদ্দীপক	apathetic
Zenith (n)	summit, pinnacle	শীর্ষবিন্দু	nadir
Zest (n)	enthusiasm, interest	উচ্ছাস, প্রবল উৎসাহ ও আনন্দ	indifference
Zone (n)	region, area	অঞ্চল, এলাকা	

Vocabulary Exercise

From the answer choices, find out the OPPOSITE WORD for the words in capital letters.

1. FALLACY:
   (A) personal philosophy (B) imaginative idea (C) unconfirmed theory (D) tentative opinion (E) valid argument
2. DIVULGE:
   (A) keep secret (B) evaluate by oneself (C) refine (D) restore (E) copy
3. BOYCOTT:
   (A) extort (B) underwrite (C) underbid (D) stipulate (E) patronize
4. ADULTERATION:
   (A) consternation (B) purification (C) normalization (D) approximation (E) rejuvenation
5. DEPOSITION:
   (A) process of congealing (B) process of distilling (C) process of eroding (D) process of evolving (E) process of condensing
6. ENERVATE:
   (A) recuperate (B) resurrect (C) renovate (D) gather (E) strengthen
7. LOQUACIOUS:
   (A) tranquil (B) skeptical (C) morose (D) taciturn (E) witty
8. REPINE:
   (A) intensify (B) excuse (C) express joy (D) feel sure (E) rush forward
9. VENERATION:
   (A) derision (B) blame (C) avoidance (D) ostracism (E) defiance
10. INVETERATE:
    (A) casual (B) public (C) satisfactory (D) trustworthy (E) sophisticated
11. ADHERE:
    (A) detach (B) cleanse (C) engulf (D) incise (E) contain
12. UNCONVENTIONALITY:
    (A) perceptibility (B) inscrutability (C) imperturbability (D) fidelity to custom (E) formality of discourse
13. PINCH:
    (A) important accomplishment (B) apt translation (C) abundant amount (D) opportune acquisition (E) unfamiliar period
14. OUTSER:
    (A) regression (B) series (C) exit (D) interruption (E) termination
15. RAREFY:
    (A) make less humid B) make less opaque (C) make more voluminous (D) make more dense (E) make more oily
16. EFFRONTERY:
    (A) charity (B) deference (C) simplicity (D) deceitfulness (E) stupidity
17. SCURVY:
    (A) completely centered (B) above reproach (C) imaginative (D) valiant (E) carefree

18. OBDURATE:
(A) complaisant (B) similar (C) commensurate
(D) uncommunicative (E) transitory

19. AVER:
(A) resign indignantly (B) condemn unjustly C) refuse
(D) deny (E) resent

20. PITH:
(A) untimely action (B) insufficient attention (C) routine treatment
(D) rigid formulation (E) superficial element

21. SUPINE:
(A) vigilant (B) flustered (C) distorted (D) brittle (E) awkward

22. CONSOLIDATION:
(A) instigation (B) fragmentation (C) restriction
(D) opposition (E) provocation

23. SECURE:
(A) infest (B) unearth (C) impart (D) implant (E) unfasten

24. FRACAS:
(A) rapture (B) relic (C) novel predicament
(D) peaceful situation (E) just reward

25. GRATE:
(A) soothe (B) gather (C) acknowledge (D) forgive (E) improve

26. HYPERBOLE:
(A) equivocation (B) criticism (C) understatement
(D) pessimism (E) skepticism

27. INERRANCY:
(A) productivity (B) generosity (C) volubility
(D) fallibility (E) plausibility

28. STEEP:
(A) relax (B) repulse (C) plummet (D) clarify (E) parch

29. RECUMBENT:
(A) well fortified (B) standing up (C) lacking flexibility
(D) constricted (E) alarmed

30. NATTY:
(A) sloppy (B) quiet (C) loose (D) common (E) difficult

31. EXIGENT:
(A) unprepossessing (B) inquisitive
(C) devoted (D) absurd (E) deferrable

32. PLATITUDE:
(A) concise formulation (B) original observation
(C) unsubstantiated claim (D) relevant concern (E) insincere remark

33. ASSET:
(A) duty (B) qualification (C) denial
(D) liability (E) instability

34. CONCUR:
(A) expose (B) incite (C) prolong (D) dissent (E) forgive

35. AMALGAMATE:
(A) congregate (B) insulate (C) isolate (D) layer (E) revive

36. FERROUS:
(A) affected by rust (B) containing on iron (C) chemically inert
(D) combined with water (E) permanently magnetized

37. PHLEGMATIC:
(A) vivacious (B) valiant (C) arid
(D) healthy (E) mature

38. PRODIGIOUS:
(A) implicit (B) slight (C) constant
(D) unnecessary (E) premature

39. CORROBORATION:
(A) weakening (B) lessening of certainty
(C) reduction in generality (D) implausibility (E) inadequacy

40. PALPABILITY:
(A) infertility (B) inflammability (C) intangibility
(D) intractability (E) intolerability

41. ALACRITY:
(A) hesitance and reluctance (B) caution and fear (C) cynicism and skepticism
(D) suspicion and doubt (E) concern and anxiety

42. MANNERED:
(A) plain (B) infantile (C) progressive
(D) ignorant (E) natural

43. DISSEMBLE:
(A) act conventionally (B) put together (C) appear promptly
(D) behave honestly (E) obtain readily

44. DOMINATE:
(A) have no ability to (B) have no control over
(C) be irreconcilable (D) be angry (E) be undisciplined

45. SIDESTEP:
(A) confront directly (B) detain temporarily
(C) comprehend accurately (D) judge hastily (E) treat fairly

46. FACILITATE:
(A) hallow (B) hamper (C) hurdle
(D) hide (E) hold

47. MUNDANE:
(A) sufficient (B) superior (C) exotic
(D) agile (E) perfect

48. ELASTICITY:
(A) lack of spontaneity (B) lack of tension (C) lack of resilience
(D) symmetry (E) permanence

49. APPRISE:
(A) oblige (B) underrate (C) apply pressure
(D) offer encouragement (E) withhold information

50. SQUALID:
(A) florid (B) extraneous (C) fervid
(D) abundant (E) pristine

51. MANIPULATIVE:
(A) impassioned (B) lethargic (C) inept
(D) guileless (E) unaltered

52. ANTIPATHY:
(A) pronounced talent (B) settled fondness (C) concealed passion
(D) cultivated nostalgia (E) sustained interest

53. FLEDGE:
(A) seek (B) call (C) mate
(D) emit (E) molt

54. DIATRIBE:
(A) encomium (B) epitome (C) euphemism
(D) epistle (E) epigram

55. FLUSTERED:
(A) mute (B) calm (C) heavy (D) ingrained (E) courageous

56. ENDORSE:
(A) provoke criticism (B) receive payment (C) submit unwillingly
(D) oppose publicly (E) perform quickly

57. EXPIRE:
(A) evolve (B) stabilize (C) come to life
(D) grow to fruition (E) bring to light

58. METAMORPHOSIS:
(A) relief from strain (B) continuation without change (E) varied activity
(C) cyclical motion (D) dogmatic persistence

59. MOROSE:
(A) overawed (B) agitated (C) cherubic
(D) decisive (E) cheerful

60. INDELIBILITY:
(A) availability (B) comprehensibility (C) decidability
(D) eras ability (E) retract ability

61. SPIRITUAL:
(A) eclectic (B) figurative (C) ephemeral
(D) immoral (E) corporeal

62. DISPATCH:
(A) serenity (B) leisureliness (C) heedlessness
(D) irregularity (E) aversion

63. FERMENT:
(A) solidity (B) purity (C) lucidity
(D) transparency (E) tranquility

64. FACETIOUS:
(A) lugubrious (B) contentious (C) ingenuous
(D) prodigious (E) audacious

65. CRAVEN:
(A) indifferent (B) presumptuous (C) valorous
(D) scrupulous (E) petulant

Answer Key

1. E	2. A	3. E	4. B	5. C	6. E	7. D	8. C	9. A	10. A
11. A	12. D	13. C	14. E	15. D	16. B	17. B	18. A	19. D	20. E
21. A	22. B	23. E	24. D	25. A	26. C	27. D	28. E	29. B	30. A
31. E	32. B	33.D	34. D	35. C	36. B	37. A	38. B	39. B	40. C
41. A	42. E	43. D	44. B	45. A	46. B	47. C	48. C	49. E	50. E
51. D	52.B	53.E	54. A	55. B	56. D	57. C	58. B	59. E	60. D
61. E	62. B	63. E	64. A	65. C					

What is an Analogy

Every analogy question on the BBA/MBA/SAT/GRE tests begins with a pair of capital lettered words. আপনাদের কাজ হবে এই Pair এর words দুটোর মধ্যে কি সম্পর্ক আছে তা খুঁজে বের করা এবং answer choices থেকে একই সম্পর্কযুক্ত একটি pair of words খুঁজে বের করা।

The Basic Approach

আপনি কিভাবে দুটো Word এর মধ্যকার পারস্পরিক সম্পর্ক খুঁজে বের করবেন? Best পদ্ধতি হচ্ছে এই দুটো words দিয়ে একটি ছোট sentence তৈরী করা। This sentence must use both the words and it must state their relationship clearly. আপনার তৈরী করা Sentence টি যত ছোট এবং specific হবে ততই সুবিধা। শুধু শুধু কঠিন sentence তৈরী করার চেষ্টা করবেন না।

Three Step Method

The method for solving analogies has three simple steps:

1. **Build a bridge between the stem words:** প্রদত্ত শব্দ দুটোর মধ্যে সম্পর্ক তৈরী করার চেষ্টা করুন।
2. **Plug in the answer choices** : Answer choice গুলো থেকে আপনার তৈরী করা সম্পর্কের সাথে মিলে যায় এমন একটি pair of words বের করুন।
3. **Adjust your bridge, if you need to** : Answer বের করতে না পারলে আবার question এ ফিরে যান। দেখুন অন্য কোন bridge তৈরী করা যায় কিনা।

নিচের example টি লক্ষ্য করুন।

LILY: FLOWER:

1. **Build the bridge:** The best bridge here is, *"A Lily is a type of Flower."*
2. **Plug in the answer choices** : Here is the complete question

LILY: FLOWER:

A) Rose : Thorn B) Brick : Building C) Cocoon : Butterfly
D) Maple : tree E) Sky : Airplane

Take the bridge you have built and plug in answer choices (A) through (E). If one of the pair perfectly fits into the bridge, it is surely the answer.

N. B.: Be sure to try all five choices.

Answer choices দেখার সময় নিজেকে প্রশ্ন করুন -

(A) Is a Rose a type of Thorn? No.
(B) Is a Brick a type of Building? No.
(C) Is a Cocoon a type of Butterfly? No.
(D) Is a Maple a type o Tree? Yes.
(E) Is a Sky a type of Aeroplane? No.

3. Adjust your bridge if you need to: Unlike previous example, if no answer choice seems to fit, your bridge is too specific or narrow. If more than one answer choice fits, your bridge is not specific enough or basically, too broad. In either case, you should go back and adjust your bridge.

Eliminating unrelated pairs:

নিচের example টি দেখুন এবং solve করার চেষ্টা করুন, এবার আমরা question stem টাই বাদ দিয়ে শুরু করছি।

A) Plentiful : Resource
B) Wealthy : Money
C) Voluntary : Result
D) Neutral : Activity
E) Humorous : Movie

CRACKING: ধরে নিচ্ছি, আমরা question stem এ দেওয়া word গুলোর মানে জানি না। সুতরাং, We have to ignore them and study the choices. Let's look at the choices one-at-a-time:

A) Is there a clear and necessary relationship between Plentiful and Resource? No. A resource might be plentiful, but it also might be scarce. The two words don't necessarily go together. Eliminate.

B) Is there a clear and necessary relationship between Wealthy and Money? Yes. Wealthy means something like "Having a lot of Money". This option seems a possible answer.

C) Is there a clear and necessary relationship between Voluntary and Result? No. Eliminate.

D) Is there a clear and necessary relationship between Neutral and Activity? No. Eliminate.

E) Is there a clear and necessary relationship between Movie and Humorous? No. Movies do not necessarily have to be humorous. There are other genres (e.g. tragedies) of movies as well.

We have eliminated everything but (B). সুতরাং (B) ই আমাদের answer. Notice that in all of the problems above, we have talked about whether the word pairs are necessarily related or not. A necessary relationship between two words indicates a strong relationship between them. For example, the words "trumpet" and "instrument" are necessarily related since a trumpet cannot be anything but an instrument. However, such a strong relationship is not necessary between the words "trumpet" and "jazz" (a genre of music). It is not necessary that trumpet has to be played in jazz music. Or it is not necessary that trumpet cannot be used in any other genre of music.

Watch Out For Answer Choices That Reverse The Original Relationship:

Analogy question এর মাধ্যমে student দের বিভ্রান্ত করার সবচেয়ে common উপায় হচ্ছে original pair এর শব্দগুলোর অর্থ যে sequence এ আছে, সেটাকে reverse (বিপরীত) করে answer set করা। নিচের example টি লক্ষ্য করুন –

Pilot : Steer
A) Boss : Obey
B) Chef :Dine
C) Lawyer : Retain
D) Guard : Protect
E) Soldier : Command

প্রথম দেখায় অনেকগুলোকে answer মনে হতে পারে। 'A pilot is someone who steers" or "A soldier is someone who is commanded." এই relationships promising মনে হচ্ছে কি? হচ্ছে। কিন্তু these options are not correct. Ask yourself who is doing what to whom? In the question pair, the pilot is doing something. Choice (E) তে the soldier is not the person doing something, he is the person to whom something is being done. He is being commanded, he himself does not get to command others. In other words, the soldier is the object of the verb command, not the verb's subject. Original grammatical relation টা এক্ষেত্রে উল্টে গিয়েছে। একইভাবে eliminate করে করে আমরা answer পাই (D) A guard is someone who protects.

WHEN YOU DON'T KNOW WORDS IN THE ANSWER CHOICES:

যখন আপনি Answer choices এ প্রদত্ত word গুলোর একটি বা একাধিক এর অর্থ জানেন না, এখন answer করা একটু কঠিন হয়ে যায়। তারপরেও আপনি answer করতে পারবেন। Suppose, you know the meanings of the words given in the question stem এবং আপনি ঐ শব্দ দুটির মধ্যে একটা definite relationship তৈরী করতে পেরেছেন। তখন আপনি "process of elimination" পদ্ধতি অবলম্বন করবেন। সেটা হচ্ছে ধরুন, আপনি পাঁচটি answer choice এর যে কোন একটির word গুলোর বা একটি word এর meaning জানেন না। নিচের example টি লক্ষ্য করুন -

innovator : create :

A) patient : cure B) -------- : give C) scientist : describe
D) president : elect E) prisoner : confess

CRACKING : আমরা choice (B) এর প্রথম শব্দটির অর্থ জানি না। আমরা এখানে আমাদের usual procedure follow করব।

'An innovator is someone who creates'

(A) Is a patient someone who cures ? No.. Eliminate

(B) Could ------- mean someone who gives? হতে পারে। আমরা যেহেতু শব্দটির অর্থ জানি না, সুতরাং we've to hold on to this choice.

(C) Is a scientist someone who describes? Well, a scientist might describe something, but এটাই scientist □□ prefect definition নয়। There is no clear and necessary relationship between the two words. Eliminate.

(D) Is a president someone who elects? No. Eliminate.

(E) Is a prisoner someone who confesses? এক্ষেত্রেও কোন definite relationship পাওয়া যাচ্ছে না। A prisoner might have made a confession, but many prisoners don't confess, and many people who confess aren't prisoners. Eliminate.

আমরা (B) ছাড়া সবগুলো eliminate করে ফেলেছি। সুতরাং (B) must be answer. The missing word is benefactor.

N.B. *Please Consult SAT-1 books (older versions) for more knowledge about analogy.*

Analogies tend fall into certain basic types. If you can discover no apparent relationship between the two capitalized words, try establishing a relationship between them based on those types commonly used on the test.

ANALOGY TYPES:

Definition Type

REFUGE: SHELTER
A refuge (place of asylum) by definition shelters.

TAXONOMIST : CLASSIFY
A taxonomist, a person who specializes in classification, by definition classifies.

HAGGLER: BARGAIN
A haggler, a person who argues over prices, by definition bargains.

Defining Characteristic Type

TIGER: CARNIVOROUS
A tiger is defined as a carnivorous of meet – eating animal.

ENTOMOLOGIST: INSECTS
An entomologist is defined as a person who studies insects.

APIARY : BEE
An apiary is defined a home for bees.

Class and Member Type

REPTILE : SALAMANDER
A salamander is an example of a reptile.

METAPHYSICS : PHILOSOPHY
Metaphysics belongs to the field of philosophy.

SONNET : POEM
A sonnet is a specific kind of poem.

Antonyms Type
Antonyms are words that are opposite in meaning. Both words belong to the same part of speech.
CONCERNED : INDIFFERENT
Indifferent means unconcerned.
WAX : WANE
Wax, to grow larger, and wane, to dwindle, are opposites.

ANARCHY : ORDER
Anarchy is the opposite of order.

Antonym Variants Type
In an Antonym Variant, the words are not strictly antonyms: their meanings, however, are opposed. Take the adjective nervous. A strict antonym for the adjective nervous would be the adjective poised. However, where an Antonym would have the adjective poised, an Antonym Variant analogy has the noun poise. It looks like this:
NERVOUS : POISE
Nervous means lacking in poise.

INIQUITOUS : VIRTUE
Something iniquitous lacks virtue. It is the opposite of virtuous.
ABSTINENT : GORGE
Abstinent or sparing in eating means not inclined to cram or gorge.

Synonyms Type
Synonyms are words that have the same meaning. Both words belong to the same part of speech.
MAGNIFICENTG : GRANDIOSE
Grandiose means magnificent.

RATIOCINATE : THINK
To ratiocinate is to think.
RECIDIVIST : BACKSLIDER
A recidivist or habitual offender is a backslider.

Synonym Variants Type
In a Synonym Variant, the words are not strictly synonymous; their meanings, however, are opposed. Take the adjective willful. A strict synonym for the adjective willful would be the adjective unruly. However, where a Synonym would have the adjective unruly, a Synonym Variant analogy has the noun unruliness. It looks like this;

WILLFUL : UNRULINESS
Willful means exhibiting unruliness.
VERBOSE : WORDINESS
Someone verbose is wordy: he or she exhibits wordiness.
SOLICITOUS : CONCERN
Someone solicitous is concerned; he or she shows concern.

Degree of Intensity Type

FOND : DOTING
Found is less extreme than doting
FLURRY : BLIZZARD
A flurry or shower of snow is less extreme than a blizzard.
GRASPING : RAPACIOUS
To be grasping is less extreme than to be rapacious.
Part to Whole Type

ISLAND : ARCHIPELAGO
Many islands make up an archipelago

SHARD : POTTERY
A Shard is a fragment of pottery.
CANTO : POEM
A canto is part of poem.

Function Type

ASYLUM : REFUGE
An asylum provides refuge or protection.
BALLAST : STABILITY
Ballast provides stability.

LULL : STORM
A full temporarily interrupts a storm.

Manner Type

MUMBLE : SPEAK
To mumble is to speak indistinctly
STRUT : WALK
To strut is to walk proudly.

STRAINED : WIT
Wit that is strained is forced in manner.

Action and its Significance Type

WINCE : PAIN
A wince is a sign that one feels pain.
BULUSH : EMBARRASMINT
A blush signifies embarrassment.
PROSTRATION : SUBMISSIVENESS
Prostration (assuming a prostrate position, face to the ground) is a sign of submissiveness or abasement.

Worker and Article Created Type

POET : SONNET
A poet creates a sonnet.
ARCHITECT : BLUEPRINT
An architect designs a blueprint.
MASON : WALL
A mason builds a wall.

Worker and Tool Type

PAINTER : BRUSH
A painter uses a brush
SICKLE : REAPER
A reaper uses a sickle to cut the grain.
CARPENTER : VISE
A carpenter uses a vise to hold the object being worked on.

Worker and Action Type

ACROBAT : CARTWHEEL
An acrobat performs a cartwheel.
FINANCIER : INVEST
A financier invests
TENOR : ARIA
A tenor sings an aria.

Worker and Workplace Type

MUSICIAN : CONSERVATORY
A musician studies at a conservatory.
SCULPTOR : ATELIER
A sculptor works in an atelier or studio.
MINER : QUARRY
A miner works in a quarry or pit.

Tool and its Action Type

DRILL : BORE
A drill is a tool used to bore holes.
CROWBAR : PRY
A crowbar is a tool used to pry things apart.
SIEVE : SIT
A sieve is a tool used to strain or sift.

Cause and Effect Type

SOPORIFIC : SLEEPINESS
A soporific causes sleepiness.

Sex Type

DOE : STAG
A doe is a female deer; a stag, a male deer.

Age Type

COLT : STALLION
A colt if a young stallion.

Time Sequence Type

CORONATION : REIGN
The coronation precedes the reign.

Spatial Sequence Type

ROOF : FOUNDATION
The roof is the highest point of a house; the foundation, the lowest point.

Symbol and Quality it Represents Type

DOVE : PEACE
A dove is the symbol of peace.

PRACTICE EXERCISES

Directions: In each of the following questions, a related pair of words or phrases is followed by five lettered pairs of words phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

Analogy Exercise - A

1. MASON : WALL ::
   (A) artist : easel (B) fisherman : trout
   (C) author : book
   (D) congressman : senator
   (E) sculptor : mallet
2. FIRE : ASHES :: (A) accident : delay
   (B) wood : splinters (C) water : waves
   (D) regret : melancholy
   (E) event : memories
3. GOOSE : GANDER :: (A) duck : drake
   (B) hen : chicken (C) sheep : flock
   (D) dog : kennel (E) horse : bridle
4. CARPENTER : SAW ::
   (A) stenographer : typewriter
   (B) painter : brush (C) lawyer : brief
   (D) seamstress : scissors
   (E) runner : sneakers
5. CAPTAIN : SHOAL ::
   (A) lawyer : litigation (B) pilot : radar
   (C) soldier : ambush
   (D) doctor : hospital
   (E) corporal : sergeant
6. HORNS : BULL :: (A) mane : lion
   (B) wattles : turkey (C) antlers : stag
   (D) hoofs : horse (E) wings : eagle
7. JUDGE : COURTHOUSE ::
   (A) carpenter : bench
   (B) lawyer : brief
   (C) architect : blueprint
   (D) physician : infirmary
   (E) landlord : studio
8. HELMET : HEAD :: (A) pedal : foot
   (B) gun : hand (C) breastplate : chest
   (D) pendant : neck
   (E) knapsack : back
9. GULLIBLE : DUPED ::
   (A) Credible : cheated
   (B) careful : cautioned
   (C) malleable : molded
   (D) myopic : misled
   (E) articulate : silenced
10. DUNGEON : CONFINEMENT ::
    (A) church : chapel (B) school : truancy
    (C) asylum : refuge (D) hospital : mercy
    (E) refine : style
11. HERMIT : GREGARIOUS ::
    (A) miser : penurious
    (B) ascetic : hedonistic
    (C) coward : pusillanimous
    (D) scholar : literate
    (E) crab : crustacean
12. MENDACITY : HONESTY ::
    (A) courage : cravenness
    (B) truth : beauty
    (C) courage : fortitude
    (D) unsophisticatedness : ingenuousness
    (E) turpitude : depravity
13. MARATHON : STAMINA ::
    (A) relay : independence
    (B) hurdle : perseverance
    (C) sprint : celerity
    (D) job : weariness
    (E) ramble : directness
14. NAÏVE : INGENUE ::
    (A) ordinary : genius
    (B) venerable : celebrity
    (C) urbane : sophisticate
    (D) crafty : artisan
    (E) modest : braggart
15. RETOUCH : PHOTOGRAPH ::
    (A) hang : painting (B) finger : fabric
    (C) retract : statement
    (D) compose : melody
    (E) refine : style
16. INDIGENT : WEALTH ::
    (A) contented : happiness
    (B) aristocratic : stature
    (C) smug : complacency
    (D) emaciated : nourishment
    (E) variegated: variety
17. SHALE : GEOLOGIST ::
    (A) catacombs : entomologist
    (B) aster : botanist
    (C) obelisk : fireman (D) love : philologist
    (E) reef : astrologer
18. DIDACTIC : TEACH ::
    (A) sophomoric : learn (B) satiric : mock
    (C) reticent : complain (D) chaotic : rule
    (E) apologetic : deny

19. HACKNEYED : ORIGINAL ::
(A) mature : juvenile (B) trite : morbid
(C) withdrawn : reserved
(D) evasive : elusive
(E) derivative : traditional

20. AUGER : CARPENTER ::
(A) studio : sculptor (B) awl : cobbler
(C) seam : seamstress
(D) cement : mason (E) apron : chef

Analogy Exercise - B

1. MUSTER : CREW ::
(A) convene : committee
(B) demobilize : troops
(C) dominate : opposition
(D) cheer : team (E) dismiss : jury

2. DWELL : DENIZEN :: (A) shun : outcast
(B) inherit : heir (C) squander : miser
(D) obey : autocrat (E) patronize : protégé

3. MEANDERING : DIRECTNESS ::
(A) menacing : ambition
(B) affable : permissiveness
(C) digressive : conciseness
(D) circuitous : rotation
(E) aboveboard : openness

4. CEMENT : TROWEL :: (A) lawn : rake
(B) conflagration : match
(C) paint : brush
(D) floor : polish (E) wallpaper : ladder

5. RIGHEADED : YIELD ::
(A) lionhearted : retreat
(B) lily-livered : flee (C) dogged : pursue
(D) featherbrained : giggle
(E) eagle-eyed : discern

6. ALARM : TRIGGER ::
(A) prison : escape
(B) tunnel : dig (C) criminal : corner
(D) fright : allay (E) trap : spring

7. QUOTATION : QUOTATION MARKS ::
(A) remark : colon
(B) sentence : period
(C) aside : parentheses
(D) clause : semicolon
(E) interjection : exclamation point

8. SIGNATURE : ILLUSTRATION ::
(A) byline : column (B) alias : charge
(C) credit : purchase (D) note : scale
(E) reference : recommendation

9. SCALES : JUSTICE ::
(A) weights : measures (B) laws : courts
(C) torch : liberty (D) laurel : peace
(E) balance : equity

10. SURPIRISE : EXCLAMATION ::
(A) insolence : bow (B) dismay : groan
(C) happiness : grimace
(D) deference : nod (E) contentment: sigh

11. APOSTATE : RELIGION ::
(A) potentate : kingdom
(B) traitor : country
(C) bureaucrat : government
(D) jailer : law
(E) teacher : education

12. FOX : CUNNING :: (A) dog : play full
(B) hyena : amusing
(C) beaver : industrious
(D) vixen : cute (E) colt : sturdy

13. PERJURY : OATH ::
(A) plagiarism : authority
(B) embezzlement : trust
(C) disrespect : age (D) testimony : court
(E) jury : vow

14. EULOGY : BLAME : (A) elegy : loss
(D) satire : mockery (C) tirade : abuse
(D) simile : likeness (E) benediction : curse

15. PRIDE : LIONS :: (A) gaggle : geese
(B) honor : thieves (C) snarl : wolves
(D) arrogance : kings (E) lair : bears

16. RANGE : MOUNTAINS ::
(A) atlas : maps (B) plain : prairie
(C) string : beads (D) novel : short stories
(E) sea : rivers

17. EXCESSIVE : MODERATION ::
(A) extensive : duration
(B) arbitrary : courage
(C) impulsive : reflection
(D) distinguished : reverence
(E) expensive : cost

18. DEADBEAT : PAY ::
(A) killjoy : lament (B) spoilsport : refrain
(C) daredevil : risk (D) diehard : quit
(E) turncoat : betray

19. MENDICANT : IMPECUNIOUS ::
(A) critic : quizzical
(B) complainer : petulant
(C) physician : noble (D) liar : compulsive
(E) philanthropist : prodigal

20. SNICKER : DISRESPECT ::
(A) whimper: impatience (B) chortle : glee
(C) frown : indifference
(D) sneer : detachment
(E) glower : cheerfulness

Analogy Exercise - C

1. MYTH : LEGENDARY ::
(A) sermon : lengthy (B) anecdote : witty
(C) fable : didactic (D) epic : conic
(E) allegory : obscure
2. TIRADE : ABUSIVE ::
(A) monologue : lengthy
(B) aphorism : boring
(C) prologue : conclusive
(D) encomium : laudatory
(E) critique : insolent
3. EXPEDITIOUS : SPEED ::
(A) astute : wisdom
(B) decorous : impropriety
(C) thoughtful : inanity
(D) haggard : sturdiness
(E) portable : frailty
4. ANNOTATE : TEXT :: (A) enact : law
(B) prescribe : medication
(C) caption : photograph
(D) abridge : novel (E) censor : film
5. DRUDGERY : IRKSOME ::
(A) encumbrance : burdensome
(B) journey : wearisome
(C) ambivalence : suspicious
(D) compliance : forced
(E) dissonance : harmonious
6. IMPROMPTU : REHEARSAL ::
(A) practiced : technique
(B) makeshift : whim
(C) offhand : premeditation
(D) glib : fluency
(E) numerical : calculation
7. ELISION : SYLLABLES ::
(A) contraction : letters
(B) thesis : ideas
(C) diagnosis : symptoms
(D) almanac : facts (E) abacus : numbers
8. STICKLER : INSIST ::
(A) mumbler : enunciate
(B) trickster : risk (C) haggler : concede
(D) laggard : outlast
(E) braggart : boast
9. DETRITUS : GLACIER ::
(A) thaw : snowfall (B) snow : ice cap
(C) silt : river (D) range : mountain
(E) foliage : tree
10. DESCRY : DISTANT ::
(A) mourn : lost (B) whisper : muted
(C) discern : subtle (D) destroy : flagrant
(E) entrap : hostile
11. HORSE : CORRAL :: (A) oyster : reef
(B) dog : muzzle (C) sheep : reel
(D) pig : sty (E) deer : stag
12. RUBBER : ELASTIC :: (A) paper : brittle
(B) diamond : hard (C) satin : sheer
(D) metal : heavy (E) dust : allergic
13. REAM : PAPER :: (A) carton : milk
(B) statue : marble (C) tablet : clay
(D) ink : pen (E) cord : wood
14. HOBBLE : WALK :: (A) gallop : run
(B) stammer : speak (C) stumble : fall
(D) sniff : smell (E) cord : wood
15. DETECTIVE : INFORMER ::
(A) spy : counterspy (B) reporter : source
(C) author : editor (D) architect :draftsman
(E) sailor : mutineer
16. SCULPTOR : STONE ::
(A) essayist : words (B) painter: turpentine
(C) composer : symphony
(D) logger : timber (E) etcher : acid
17. MASTHEAD : NEWSPAPER ::
(A) footnote : essay (B) credits : film
(C) spine : book (D) ream : paper
(E) advertisement : magazine
18. FRAYED : FABRIC :: (A) thawed : ice
(B) removed : building
(C) frazzled : nerves (D) watered : lawn
(E) cultivated : manner
19. INDOLENT : WORK ::
(A) decisive : act
(B) gullible : cheat
(C) perceptive : observe
(D) theatrical : perform
(E) taciturn : speak
20. INFALLIBLE : ERROR ::
(A) irreversible : cure
(B) invulnerable : emotion
(C) impeccable : flaw
(D) intolerable : defect
(E) immovable : choice

Analogy Exercise - D

1. INFRACTION : LAW ::
   (A) interruption : continuity
   (B) renovation : structure
   (C) establishment : order
   (D) enactment : amendment
   (E) punishment : crime
2. LACHRYMOSE : TEARS ::
   (A) effusive : requests (B) ironic : jests
   (C) morose : speeches
   (D) profound : sighs (E) verbose : words
3. MOISTEN : DRENCH :
   (A) enclose : confine (B) prick : stab
   (C) disregard : ignore
   (D) scrub : polish (E) heat : chill
4. WITCH : COVEN :: (A) ogre : castle
   (B) seer : prophecy (C) actor : troupe
   (D) fairy : spell (E) doctor : medicine
5. CONTINENT : ISLAND ::
   (A) ocean : lake (B) isthmus : peninsula
   (C) cape : cove (D) river : canal
   (E) plateau : plain
6. SKINFLINT : STINGY :: (A) daredevil: alert
   (B) braggart : carefree
   (C) blackguard : protective
   (D) spendthrift : weak
   (E) diehard : stubborn
7. STOREY : BUILDING :: (A) plot : outline
   (B) rung : ladder (C) cable : elevator
   (D)foundation : skyscraper
   (E) spire : church
8. CANONIZE : SAINT :: (A) train :speedy
   (B) guard : dignitary (C) deify : sinner
   (D) lionize : celebrity
   (E) humanize : scholar
9. STARE : GLANCE ::
   (A) participate : observe
   (B) scorn : admire (C) hunt : stalk
   (D) listen : hear (E) go : run
10. PERFORATE : HOLES ::
    (A) speckle : spots
    (B) evaporate : perfume
    (C) decorate : rooms
    (D) filter : water (E) repent : sins
11. PUGNACIOUS : BATTLE ::
    (A) timorous : beg (B) loquacious : drink
    (C) tenacious : persist
    (D) veracious : lie (E) wicked : Survive
12. CLEARSIGHTED : PERSPICACITY ::
    (A) daring : temerity
    (B) reserved : impulsiveness
    (C) transparent : opacity
    (D) severe : clemency
    (E) lethargic : energy
13. PLEAD : SUPPLICANT ::
    (A) disperse : rioter (B) shun : outcast
    (C) revere : elder (D) beg :philanthropist
    (E) translate : interpreter
14. EPIGRAM : PITHY ::
    (A) allegory : lengthy (B) saga : heroic
    (C) anecdote : humorous
    (D) elegy : satiric (E) proverb : modern
15. BOLT : FABRIC :: (A) lock : key
    (B) book : paper (C) roll : film
    (D) needle : thread (E) light : lamp
16. WHISKEY : ALCOHOL ::
    (A) cream : milk
    (B) canteen : water (C) tanker : oil
    (D) octane : gasoline (E) pulp : juice
17. INCUBATOR : INFANT ::
    (A) hen house : chicken
    (B) greenhouse : plant
    (C) archives : document
    (D) cooler : wine (E) hive : bee
18. CITADEL : DEFENSE ::
    (A) chapel : refreshment
    (B) gazebo : refuge
    (C) marina : contemplation
    (D) warehouse : storage
    (E) casino : poker
19. DRUDGERY : IRKSOME ::
    (A) encumbrance : burdensome
    (B) journey : wearisome
    (C) ambivalence : suspicious
    (D) compliance : forced
    (E) dissonance : harmonious
20. TRYST : CLANDESTINE ::
    (A) reverie : dreamy
    (B) acquaintanceship : brief
    (C) expectation : hopeless
    (D) glance : resentful
    (E) journey : leisurely

Analogy Exercise - E

1. WHISPER : SPEAK :: (A) brush : touch (B) skip : walk (C) listen : hear (D) request : ask (E) whimper : whine
2. ELUSIVE : CAPTURE ::
   (A) persuasive : convince
   (B) elastic : stretch
   (C) headstrong : control
   (D) sensible : decide (E) gullible : trick
3. LINEAGE : PERSON : (A) foliage : tree
   (B) derivation : word
   (C) adolescence : child
   (D) title : book (E) landscape : portrait
4. IMPANEL : JUROR ::
   (A) accuse : defendant (B) convict : culprit
   (C) testify : witness (D) enroll : student
   (E) involve : bystander
5. PECCADILLO : TRIFLING ::
   (A) pariah : popular
   (B) diagnosis : accurate
   (C) notion : farfetched
   (D) squabble : petty (E) pursuit : trivial
6. PHYSIQUE : STURDY ::
   (A) intellect : noble (B) punctuality : tardy
   (C) investment : sound (D) fabric : worn
   (E) technique : inept
7. TRAILER : MOTION PICTURE ::
   (A) truck : cargo (B) theater : play
   (C) edition : novel
   (D) commercial : product
   (E) libretto : opera
8. SIGN : ZODIAC :: (A) poster : billboard
   (B) letter : alphabet
   (C) prediction : prophecy
   (D) signal : beacon
   (E) rhyme : almanac :
9. LUMINARY : ILLUSTRIOUS ::
   (A) zealot : intense (B) miser : prodigal
   (C) atheist : devout
   (D) dignitary : conceited
   (E) celebrity : wealthy
10. BUFFOON : DIGNITY ::
    (A) braggart : modesty
    (B) blackguard : strength
    (C) laughingstock : ridicule
    (B) imposter : identification
    (E) gambler : risk
11. ROUT : DEFEAT ::
    (A) ovation : applause
    (B) triumph : failure (C) grief : loss
    (D) pathway : ruin (E) memory : oblivion
12. METAPHOR : FIGURATIVE ::
    (A) fable : contemporary
    (B) adage : paradoxical
    (C) precept : instructive
    (D) irony : dramatic (E) epic : literal
13. LAST : SHOE :: (A) cuff : trousers
    (B) finale : curtain
    (C) approval : criticism
    (D) expectation : threats
    (E) satire : lamentations
14. LAST : SHOE :: (A) cuff : trousers
    (B) finale : curtain (C) pattern : glove
    (D) buckle : belt (E) strap : slip
15. INDOLENT : SLOTH :: (A) wrathful : ire
    (B) arrogant : acquit
    (C) covetous : enigma
    (D) gluttonous : loyalty
    (E) impatient : apathy
16. GROVEL : SERVILITY ::
    (A) titter : arrogance (B) fume : anger
    (C) yawn : civility (D) preen : modesty
    (E) snivel : hypocrisy
17. DELICATE : FASTIDIOUS ::
    (A) hard-working : diligent
    (B) altruistic : mercenary
    (C) demonstrative : effusive
    (D)deceptive : fallacious
    (E) blithe :melancholy
18. RICOCHET : BULLET :: (A) soar : falcon
    (B) aim : crossbow (C) pierce : dart
    (D) carom : ball
    (E) catapult : missile
19. JUGGERNAUT : INEXORABLE ::
    (A) cosmonaut : worldly
    (B) colossus : gigantic
    (C) demagogue : liberal
    (D) philistine :cultivated
    (E) despot : immaculate
20. APOCRYPHAL : AUTHENTICTTY ::
    (A) nefarious : wickedness
    (B) dogmatic : assertiveness
    (C) hypocritical : integrity
    (D) perspicacious : discernment
    (E) deceptive : artifice

ANSWER KEY

Analogy Exercise - A

1.	C	5.	D	9.	C	13.	C	17.	B
2.	E	6.	C	10.	C	14.	C	18.	B
3.	A	7.	D	11.	B	15.	E	19.	A
4.	D	8.	C	12	A	16	D	20.	B

Analogy Exercise - B

1.	A	5.	A	9.	C	13.	B	17.	C
2.	B	6.	E	10.	B	14.	E	18.	D
3.	C	7.	C	11.	B	15.	A	19.	B
4.	C	8.	A	12	C	16	C	20.	B

Analogy Exercise - C

1.	C	5.	A	9.	C	13.	E	17.	B
2.	D	6.	C	10.	C	14.	B	18.	C
3.	A	7.	A	11.	D	15.	B	19.	E
4.	C	8.	E	12	B	16	A	20.	C

Analogy Exercise - D

1.	A	5.	A	9.	D	13.	E	17.	B
2.	E	6.	E	10.	A	14.	C	18.	D
3.	B	7.	B	11.	C	15.	C	19.	A
4.	C	8.	D	12	A	16	D	20.	A

Analogy Exercise - E

1.	A	5.	D	9.	A	13.	B	17.	C
2.	C	6.	C	10.	A	14.	B	18.	D
3.	B	7.	D	11.	A	15.	A	19.	B
4.	D	8.	D	12	C	16	B	20.	C

PREFIX - SUFFIX

In recent IBA admission tests, there have been some questions on prefix and suffix. In order to get a good score in these questions, you have to work hard and you must know how a prefix or suffix is added to a word and changes the meaning of that word. This will also improve your vocabulary stock!

An English word can consist of three parts: the root, a prefix, and a suffix.

The **root** is the part of the word that contains the basic meaning, or definition of the word.

A **prefix** is a word element placed in front of the root, which changes the word's meaning or makes a new word.

A **suffix** is a word element placed after the root, which changes the word's meaning as well as its function.

So we can say prefixes and suffixes are sets of letters that are added to the beginning or end of another word. They are not words in their own right and cannot stand on their own in a sentence. If they are printed on their own, they have a hyphen (-) before them (for suffix) or after them (for prefix).

Some Common Prefixes

Prefix	Meaning	Example
pre-	before	They will show a sneak *preview* of the movie.
un-	not	The cafeteria will be *unavailable* tomorrow morning.
dis-	not	Riyad *disagreed* with Johny's philosophy.
re-	again	Are you going to *renew* your subscription?
mis-	not	He has *mismanaged* the company.
im-	not	With hard work and determination, nothing is *impossible*.
bi-	two	Shahriar recently received his first pair of *bifocals*.
de-	not	Many ecologists are concerned about the *deforestation* of our world's rain forests.

Some Common Suffixes

Suffixes	Meaning	Example
-er	doer	I work as a computer *programmer*.
-able	able	These glass bottles are *recyclable*.
-ous	full of	Driving on the freeway can be *dangerous*.
-ness	state of being	At night, the earth is covered in *darkness*.
-ful	full of	The witness gave an honest and *truthful* testimony.
-ly	like	Ferdous whistled *happily* on his way home from school.
-ment	state of	Auntu sighed with *contentment*.

❖ Here is a detailed list of words on roots, prefixes and suffixes with their meanings and examples. Please go through the following table and get a good grasp on those.

Prefix /Suffix / Root	Meaning	Examples
a, ac, ad, af, ag, al, an, ap, as, at	to, toward, near, in addition to, by	aside, accompany, adjust, aggression, allocate, annihilate, affix, associate, attend, adverb
a-, an-	not, without	apolitical, atheist, anarchy, anonymous, apathy, aphasia, anemia
ab, abs	away from, off	absolve, abrupt, absent
-able, -ible	Adjective: worth, ability	solvable, incredible, agreeable, excitable, salable
acer, acid, acri	bitter, sour, sharp	acerbic, acidity, acrid, acrimony
act, ag	do, act, drive	active, react, agent, active, agitate
acu	sharp	acute, acupuncture, accurate
-acy, -cy	Noun: state or quality	privacy, infancy, adequacy, intimacy, supremacy
-ade	act, product, sweet drink	blockade, lemonade
aer, aero	air, atmosphere, aviation	aerial, aerosol, aerodrome
ag, agi, ig, act	do, move, go	agent, agenda, agitate, navigate, ambiguous, action
-age	Noun: activity, or result of action	courage, suffrage, shrinkage, tonnage
agri, agro	pertaining to fields or soil	agriculture, agroindustry
-al	Noun: action, result of action	referral, disavowal, disposal, festival
-al, -ial, -ical	Adjective: quality, relation	structural, territorial, categorical
alb, albo	white, without pigment	albino, albeit
ali, allo, alter	other	alias, alibi, alien, alloy, alter, alter ego, altruism
alt	high, deep	altimeter, altitude
am, ami, amor	love, like, liking	amorous, amiable, amicable, enamored
ambi	both	ambidextrous
ambul	to walk	ambulatory, amble, ambulance, somnambulist
-an	Noun: person	artisan, guardian, historian, magician
ana, ano	up, back, again, anew	anode, anagram, anagenetic
-ance, -ence	Noun: action, state, quality or process	resistance, independence, extravagance, fraudulence
-ancy, -ency	Noun: state, quality or capacity	vacancy, agency, truancy, latency
andr, andro	male, characteristics of men	androcentric, android
ang	angular	angle
anim	mind, life, spirit, anger	animal, animate, animosity
ann, annu, enni	yearly	annual, annual, annuity, anniversary, perennial
-ant, -ent	Noun: an agent, something that performs the action	disinfectant, dependent, fragrant

Prefix /Suffix / Root	Meaning	Examples
-ant, -ent, -ient	Adjective: kind of agent, indication	important, dependent, convenient
Ante	Before	anterior, anteroom, antebellum, antedate, antecedent antediluvian
anthrop	man	anthropology, misanthrope, philanthropy
anti, ant	against, opposite	antisocial, antiseptic, antithesis, antibody, antinomies, antifreeze, antipathy
anti, antico	old	antique, antiquated, antiquity
apo, ap, aph	away from, detached, formed	apology, apocalypse, aphagia
aqu	water	aqueous
-ar, -ary	Adjective: resembling, related to	spectacular, unitary
Arch	chief, first, rule	archangel, architect, archaic, monarchy, matriarchy, patriarchy, archeozoic
-ard, -art	Noun: characterized	braggart, drunkard, wizard
aster, astr	star	aster, asterisk, asteroid, astronomy, astronaut
-ate	Noun: state, office, function	candidate, electorate, delegate
-ate	Verb: cause to be	graduate, ameliorate, amputate, colligate
-ate	Adjective: kind of state	inviolate
-ation	Noun: action, resulting state	specialization, aggravation, alternation
auc, aug, aut	to originate, to increase	augment , author, augment, auction
aud, audi, aur, aus	to hear, listen	audience, audio, audible, auditorium, audiovisual, audition, auricular, auscultate
aug, auc	increase	augur, augment, auction
aut, auto	Self	automobile, automatic, automotive, autograph, autonomous, autoimmune
bar	weight, pressure	barometer
Be	on, around, over, about, make, cause, name, affect	berate, bedeck, bespeak, belittle, beleaguer
belli	war	rebellion, belligerent, casus belli, bellicose
Bene	good, well, gentle	benefactor, beneficial, benevolent, benediction, beneficiary, benefit
bi, bine	two	biped, bifurcate, biweekly, bivalve, biannual
bibl, bibli, biblio	book	bibliophile, bibliography, Bible
bio, bi	life	biography, biology, biocentrism, biome, biosphere
brev	short	abbreviate, brevity, brief
cad, cap, cas, ceiv, cept, capt, cid, cip	to take, to seize, to hold	receive, deceive, capable, capacious, captive, accident, capture, occasion, concept, intercept, forceps, except, reciprocate
cad, cas	to fall	cadaver, cadence, cascade
-cade	procession	motorcade
calor	heat	calorie, caloric, calorimeter

Prefix /Suffix / Root	Meaning	Examples
capit, capt	head	decapitate, capital, captain, caption
cam	flesh	carnivorous, incarnate, reincarnation, carnal
cat, cata, cath	down, with	catalogue, category, catheter
caus, caut	burn, heat	caustic, cauldron, cauterize
cause, cuse, cus	cause, motive	because, excuse, accusation
ceas, ced, cede, ceed, cess	to go, to yield, move, go, surrender	succeed, proceed, precede, recede, secession, exceed, succession
cent	hundred	centennial, century, centipede
centr, centri	center	eccentricity, centrifugal, concentric, eccentric
chrom	color	chrome, chromosome, polychrome, chromatic
Chron	Time	chronology, chronic, chronicle chronometer, anachronism, synchronize
cide, cis, cise	to kill, to cut, cut down	fratricide, homicide, incision, incision, circumcision, scissors
Circum	Around	circumnavigate, circumflex, circumstance, circumcision, circumference, circumorbital, circumlocution, circumvent, circumscribe, circulatory
cit	call, start	incite, citation, cite
civ	citizen	civic, civil, civilian, civilization
clam, claim	cry out	exclamation, clamor, proclamation, reclamation, acclaim
clin	lean, bend	decline, aclinic, inclination
clud, clusclaus	to close, shut	include, exclude, clause, claustrophobia, enclose, exclusive, reclusive, conclude
co, cog, col, coll, con, com, cor	with, together	cohesiveness, cognate, collaborate, convene, commitment, compress, contemporary, converge, compact, confluence, convenient, concatenate, conjoin, combine, correct
cogn, gnos	to know	cognizant, diagnose, agnostic, incognito, prognosis
com, con	Fully	complete, compel, conscious, condense, confess, confirm
contr, contra, counter	against, opposite	contradict, counteract, contravene, contrary, counterspy, contrapuntal
cord, cor, cardi	heart	cordial, concord, discord courage, encourage
Corp	Body	corporation, corporal punishment, corpse, corpulent, corpus luteum
cort	correct	escort, cortege
cosm	universe, world	cosmos, microcosm, cosmopolitan, cosmonaut

Prefix /Suffix / Root	Meaning	Examples
cour, cur, curr, curs	run, course	occur, excursion, discourse, courier, course
crat, cracy	rule	autocrat, aristocrat, theocracy, technocracy
cre, cresc, cret, crease	Grow	create, crescent, accretion, increase
crea	create	creature, recreation, creation
Cred	Believe	creed, credo, credence, credit, credulous, incredulous, incredible
cresc, cret, crease, cru	rise, grow	crescendo, concrete, increase, decrease, accrue
crit	separate, choose	critical, criterion, hypocrite
cur, curs	Run	current, concurrent, concur, incur, recur, occur, courier, precursor, cursive
cura	care	curator, curative, manicure
cycl, cyclo	wheel, circle, circular	Cyclops, unicycle, bicycle, cyclone, cyclic
de-	from, down, away, to do the opposite, reverse, against	detach, deploy, derange, decrease, deodorize, devoid, deflate, degenerate
dec, deca	ten, ten times	decimal, decade, decalogue, decimate, decathlon
dec, dign	suitable	decent decorate dignity
dei, div	God	divinity, divine, deity, divination, deify
dem, demo	people, populace, population	democracy, demography, demagogue, epidemic
dent, dont	tooth	dental, denture, orthodontist, periodontal
derm	skin, covering	hypodermic, dermatology, epidermis, taxidermy
di-, dy-	two, twice, double	divide, diverge, diglycerides
Dia	through, across, between	diameter, diagonal, dialogue dialect, dialectic, diagnosis, diachronic
dic, dict, dit	say, speak	dictation, dictionary, dictate, dictator, Dictaphone, edict, predict, verdict, contradict, benediction
dis, dif	not, opposite of, reverse, separate, deprive of, away	dismiss, differ, disallow, disperse, dissuade, divide, disconnect, disproportion, distemper, disarray, disarm, disloyal, dismount, disown, distrust
dit	give	credit, audit
doc, doct	teach, prove	docile, doctor, doctrine, document, dogma, indoctrinate
Domin	master, that which is under control	dominate, dominion, predominant, domain
don	give	donate, condone
dorm	sleep	dormant, dormitory
dox	thought, opinion, praise	orthodox, heterodox, paradox, doxology
-drome	run, step	syndrome, aerodrome, velodrome

Prefix /Suffix / Root	Meaning	Examples
duc, duct	to lead, pull	produce, abduct, product, transducer, viaduct, aqueduct, induct, deduct, reduce, induce
dura	hard, lasting	durable, duration, endure
dynam	power	dynamo, dynamic, dynamite, hydrodynamics
dys-	bad, abnormal, difficult, impaired, unfavorable	dysfunctional, dyslexia, dyspathy
e-	not, missing, out, fully, away	emit, embed, eternal, ether, erase
ec-	out of, outside	echo, eclipse, eclectic, ecesis, ecstasy, eczema
eco-	household, environment	ecology, economize, ecospheres, ecomanagement
ecto-	outside, external	ectomorph, ectoderm, ectoplasm
-ed	Verb: past tense	dressed, faded, patted, closed, introduced
-ed	Adjective: having the quality or characteristics of	winged, moneyed, dogged, tiered
-en	Verb: to cause to become	lengthen, moisten, sharpen, blacken, ripen, widen, cheapen, flatten, harden, sadden, toughen, whiten
-en	Adjective: material	golden, woolen, silken
en-, em-	put into, make, provide with, surround with	enamor, embolden, enslave, empower, entangle
-ence, -ency	Noun: action or process, quality or state	reference, emergency, dependence, eminence, latency
end-	inside, within	endorse, endocardial, endergonic, endoskeleton, endoscope, endogenous
epi-	upon, close to, over, after, altered	epicenter, epicarp, epilogue, epigone, epidiorite
equi-	Equal	equidistant, equilateral, equilibrium, equinox, equation, equator
-er, -ier	Adjective: comparative	better, brighter, sooner, hotter, happier
-er, -or	Noun: person or thing that does something	flyer, reporter, player, member, fryer, collector, concentrator, bomber commander, dodger
-er, -or	Verb: action	ponder, dishonor, clamor, scrapper, trapper
Erg	work, effect	energy, erg, allergy, ergometer, ergograph, ergophobia
-ery	collective qualities, art, practice, trade, collection, state, condition	snobbery, bakery, greenery, gallery, slavery
-es, -ies	Noun: plural of most nouns ending in -ch, -s, -sh, -o and -z and some in -f and -y	passes, glasses, ladies, heroes
-es, -ies	Verb: third person singular present indicative of verbs that end in -ch, -s, -sh, - & some in -y	blesses, hushes, fizzes, defies

Prefix /Suffix / Root	Meaning	Examples
-ess	female	actress, goddess, poetess
-est, -iest	Adjective or Adverb: superlative	latest, strongest, luckiest, lyingest
ev-, et-	time, age	medieval, eternal
ex-	out of, away from, lacking, former	exit, exhale, exclusive, exceed, explosion, ex-mayor
exter-, extra-, extro-	outside of, beyond	external, extrinsic, extraordinary, extrapolate, extraneous, extrovert
fa, fess	speak	fable, fabulous, fame, famous, confess, profess
fac, fact, fec, fect, fic, fas, fea	do, make	difficult, fashion, feasible, feature, factory, fact, effect, manufacture, amplification, confection
fall, fals	deceive	fallacy, falsify, fallacious
femto	quadrillionth	femtosecond
fer	bear, carry	ferry, coniferous, fertile, defer, infer, refer, transfer
fic, feign, fain, fit, feat	shape, make, fashion	fiction, faint, feign
fid	belief, faith	confide, diffident, fidelity
fid, fide, feder	faith, trust	confidante, fidelity, confident, infidelity, infidel, federal, confederacy, semper fi
fig	shape, form	figurer, effigy, figure, figment
fila, fil	thread	filigree, filament, filter, filet, filibuster
Fin	end, ended, finished	final, finite, finish, confine, fine, refine, define, finale
fix	repair, attach	fix, fixation, fixture, affix, prefix, suffix
flex, flect	Bend	flex, reflex, flexible, flexor, inflexibility, reflect, deflect,circumflex
flict	strike	affliction, conflict, inflict
flu, fluc, fluv, flux	Flow	influence, fluid, flue, flush, fluently, fluctuate, reflux, influx
-fold	Adverb: in a manner of, marked by	Fourfold
for, fore	before	forecast, fortune, foresee
forc, fort	strength, strong	effort, fort, forte, fortifiable, fortify, forte, fortitude
Form	shape, resemble	form, format, conform, formulate, perform, formal, formula
fract, frag, frai	break	fracture, infraction, fragile, fraction, refract, frail
fuge	flee	subterfuge, refuge, centrifuge
-ful	Noun: an amount or quantity that fills	Mouthful, armful, wasteful
-ful	Adjective: having, giving, marked by	Fanciful, fearful, restful, respectful, youthful

Prefix /Suffix / Root	Meaning	Examples
fuse	pour	confuse, transfuse
-fy	make, form into	falsify, dandify
gam	marriage	bigamy, monogamy, polygamy
gastr, gastro	stomach	gastric, gastronomic, gastritis, gastropod
gen	kind	generous
gen	birth, race, produce	genesis, genetics, eugenics, genealogy, generate, genetic, antigen, pathogen
geo	earth	geometry, geography, geocentric, geology
germ	vital part	germination, germ, germane
gest	carry, bear	congest, gestation
giga	billion	gigabyte, gigaflop
gin	careful	gingerly
gloss, glot	tongue	glossary, polyglot, epiglottis
glu, glo	lump, bond, glue	glue, agglutinate, conglomerate
gor	to gather, to bring together	category, categorize
grad, gress, gree	to gather, to bring together, step	grade, degree, progress, gradual, graduate, egress
graph, gram, graf	write, written, draw	graph, graphic, autograph, photography, graphite, telegram, polygraph, grammar, biography, lithograph, graphic
grat	pleasing	congratulate, gratuity, grateful, ingrate
grav	heavy, weighty	grave, gravity, aggravate, gravitate
greg	herd	gregarious, congregation, segregate, gregorian
hale, heal	make whole, sound	inhale, exhale, heal, healthy, healthiness
helio	sun	heliograph, heliotrope, heliocentric
hema, hemo	blood	hemorrhage, hemoglobin, hemophilia, hemostat
her, here, hes	Stick	adhere, cohere, cohesion, inherent, hereditary, hesitate
Hetero	other, different	heterodox, heterogeneous, heterosexual, heterodyne
hex, ses	six	hexagon, hexameter, sestet
homo	same	homogenize, homosexual, homonym, homophone
hum, human	earth, ground, man	humus, exhume, humane
hydr, hydra, hydro	Water	dehydrate, hydrant, hydraulic, hydraulics, hydrogen, hydrophobia
Hyper	over, above	hyperactive, hypertensive, hyperbolic, hypersensitive, hyperventilate, hyperkinetic
hypn	sleep	hypnosis, hypnotherapy
-ia	Noun: names, diseases	phobia
-ian, an	Noun: related to, one that is	pedestrian, human
-iatry	Noun: art of healing	psychiatry

Prefix /Suffix / Root	Meaning	Examples
-ic	Adjective: quality, relation	generic
-ic, ics	Noun: related to the arts and sciences	arithmetic, economics
-ify	Verb: cause	specify
ignis	fire	ignite, igneous, ignition
-ile	Adjective: having the qualities of	projectile
in, im	into, on, near, towards	instead, import
in, im, il, ir	Not	illegible, irresolute, inactive, inviolate, innocuous, intractable, innocent, impregnable, impossible, imposter, impolite, impatient, impure, imperfect, indefinite, incomplete, inaction
infra	beneath	infrared, infrastructure
-ing	Noun: material made for, activity, result of an activity	flooring, swimming, building
-ing	Verb: present participle	depicting
-ing	Adjective: activity	cohering
Inter	between, among	international, intercept, interject, intermission, internal, intermittent;
Intra	within, during, between layers, underneath	intramural, intranet, intranasal
intro	into, within, inward	interoffice, introvert, introspection, introduce
-ion	Noun: condition or action	abduction
-ish	Adjective: having the character of	newish
-ism	Noun: doctrine, belief, action or conduct	Formalism
-ist	Noun: person or member	podiatrist
-ite	Noun: state or quality	graphite
-ity, ty	Noun: state or quality	lucidity, novelty
-ive	Noun: condition	native
-ive, -ative, -itive	Adjective: having the quality of	festive, cooperative, sensitive
-ize	Verb: cause	fantasize
jac, ject	Throw	reject, eject, project, trajectory, interject, dejected, inject, ejaculate, adjacent
join, junct	Join	adjoining, enjoin, juncture, conjunction, injunction, conjunction
judice	judge	prejudice
jug, junct, just	to join	junction, adjust, conjugal
juven	young	juvenile, rejuvenate
labor	work	laborious, belabor
lau, lav, lot, lut	wash	launder, lavatory, lotion, ablution, dilute
lect, leg, lig	choose, gather, select, read	collect, legible, eligible
leg	law	legal, legislate, legislature, legitimize

Prefix /Suffix / Root	Meaning	Examples
-less	Adjective: without, missing	motiveless, ageless, blameless, breathless, fearless
levi	light	alleviate, levitate, levity
lex, leag, leg	law	legal, college, league
liber, liver	free	liberty, liberal, liberalize, deliverance
lide	strike	collide, nuclide
liter	letters	literary, literature, literal, alliteration, obliterate
loc, loco	place, area	location, locally, locality, allocate, locomotion
log, logc, ology	word, study, say, speech, reason, study	catalog, prologue, dialogue, zoology, logo
loqu, locut	talk, speak	eloquent, loquacious, colloquial, circumlocution
luc, lum, lun, lus, lust	Light	translucent, luminary, luster, lunar, illuminate, illustrate
lude	play	prelude
-ly	Adverb: in the manner of	fluently
macr-, macer	lean	emaciated, meager
Magn	Great	magnify, magnificent, magnanimous, magnate, magnitude, magnum
main	strength, foremost	mainstream, mainsail, domain, remain
Mal	bad, badly	malformation, maladjusted, dismal, malady, malcontent,malfunction, malfeasance, maleficent
man, manu	hand, make, do	manual, manage, manufacture, manacle, manicure, manifest, maneuver, emancipate, management
mand	command	mandatory, remand, mandate
mania	madness	mania, maniac, kleptomania, pyromania
mar, mari, mer	sea, pool	marine, marsh, maritime, mermaid
matri	mother	matrimony, maternal, matriarchate, matron
Medi	half, middle, between, halfway	mediate, medieval, Mediterranean, mediocre, medium
Mega	great, million	megaphone, megaton, megaflop, megalomaniac, megabyte, megalopolis
Mem	recall, remember	memo, commemoration, memento, memoir, memorable
ment	mind	mental, mention
-ment	Noun: condition or result	document
meso	middle	mesomorph, mesoamerica, mesosphere
Meta	beyond, change	metaphor, metamorphosis, metabolism, metahistorical, metainformation
meter	measure	meter, voltammeter, barometer, thermometer

Prefix /Suffix / Root	Meaning	Examples
metr	admeasure, apportion	metrics, asymmetric, parametric, telemetry
Micro	small, millionth	microscope, microfilm, microcard, microwave, micrometer, microvolt
migra	wander	migrate, emigrant, immigrate
mill, kilo	thousand	millennium, kilobyte, kiloton
milli	thousandth	millisecond, milligram, millivolt
min	little, small	minute, minor, minuscule
Mis	wrong, bad, badly	misconduct, misinform, misinterpret, mislay, mislead, misplace, mispronounce, misnomer, mistake, misogynist, misread, mistreat, misuse
mit, miss	Send	emit, remit, submit, admit, commit, permit, transmit, omit, intermittent, mission, missile
mob, mov, mot	move	motion, remove, mobile, motor
mon	warn, remind	monument, admonition, monitor, premonition
Mono	One	monopoly, monotype, monologue, mononucleosis, monorail, monotheist,
mor, mort	mortal, death	mortal, immortal, mortality, mortician, mortuary
Morph	shape, form	amorphous, dimorphic, metamorphosis, morphology, polymorphic, morpheme, amorphous
Multi	many, much	multifold, multilingual, multiple, multiply, multitude, multipurpose, multinational
nano	billionth	nanosecond, nanobucks
nasc, nat, gnant, nai	to be born	nascent, native, pregnant, naïve
nat, nasc	to be from, to spring forth	innate, natal, native, renaissance
Neo	New	neolithic, neologism, neophyte, neonate
-ness	Noun: state, condition, quality	kindness, meanness, likeness, cleverness, fairness
neur	nerve	neuritis, neuropathic, neurologist, neural, neurotic
nom	law, order	autonomy, astronomy, gastronomy, economy
nom, nym	name	nominate, synonym
nomen, nomin	name	nomenclature, nominate, ignominious
non	nine	nonagon
non	not	nonferrous, nonsense, nonabrasive, nondescript
nov	new	novel, renovate, novice, nova, innovate
nox, noc	night	nocturnal, equinox, noctilucent
numer	number	numeral, numeration, enumerate, innumerable

Prefix /Suffix / Root	Meaning	Examples
numisma	coin	numismatics
ob, oc, of, op	toward, against, in the way	oppose, occur, offer, obtain
oct	eight	octopus, octagon, octogenarian, octave
oligo	few, little	Oligocene, oligosaccharide, oligotrophic, oligarchy
omni	all, every	omnipotent, omniscient, omnipresent, omnivorous
onym	name	anonymous, pseudonym, antonym, synonym
oper	work	operate, cooperate, opus
-or	Noun: condition or activity	valor, honor, humor, minor
ortho	straight, correct	orthodox, orthodontist, orthopedic, unorthodox
-ory	Noun: place for, serves for	territory, rectory
-ous, -eous, -ose, -ious	Adjective: having the quality of, relating to	adventurous, courageous, verbose, fractious
over	excessive, above	overwork, overall, overwork
pac	peace	pacifist, pacify, pacific ocean
pair, pare	arrange, assemblage, two	repair, impair, compare, prepare
Paleo	Old	Paleozoic, Paleolithic, paleomagnetism, paleopsychology
Pan	All	Pan-American, pan-African, panacea, pandemonium (place of all the demons),
Para	Beside	paradox, paraprofessional, paramedic, paraphrase, parachute
pat, pass, path	feel, suffer	patient, passion, sympathy, pathology
pater, patr	father	paternity, patriarch, patriot, patron, patronize
path, pathy	feeling, suffering	pathos, sympathy, antipathy, apathy, telepathy
ped, pod	Foot	pedal, impede, pedestrian, centipede, tripod, podiatry, antipode, podium
pedo	child	orthopedic, pedagogue, pediatrics
pel, puls	drive, push, urge	compel, dispel, expel, repel, propel, pulse, impulse, pulsate, compulsory, expulsion, repulsive
pend, pens, pond	hang, weigh	pendant, suspend, appendage, pensive, append
per	through, intensive	persecute, permit, perspire, perforate, persuade
peri	around	periscope, perimeter, perigee, periodontal
phage	eat	macrophage, bacteriophage
phan, phas, phen, fan, phant, fant	show, make visible	phantom, fantasy

Prefix /Suffix / Root	Meaning	Examples
phe	speak	blaspheme, cipher, phenomenon, philosopher
Phil	Love	philosopher, philanthropy, philharmonic, bibliophile
phlegma	inflammation	phlegm, phlegmatic
phobia, phobos	Fear	phobia, claustrophobia, acrophobia, aquaphobia, ergophobia, homophobia
Phon	Sound	telephone, phonics, phonograph, phonetic, homophone, microphone, symphony, euphonious
phot, photo	Light	photograph, photoelectric, photogenic, photosynthesis, photon
pico	trillionth	picofarad, picocurie, picovolt
pict	paint, show, draw	picture, depict
plac, plais	please	placid, placebo, placate, complacent
pli, ply	fold	reply, implicate, ply
plore	cry out, wail	implore, exploration, deploring
plu, plur, plus	more	plural, pluralist, plus
pneuma, pneumon	Breath	pneumatic, pneumonia,
pod	foot, feet	podiatry, tripod
Poli	City	metropolis, police, politics, Indianapolis, megalopolis, acropolis
poly	many	polytheist, polygon, polygamy, polymorphous
pon, pos, pound	place, put	postpone, component, opponent, proponent, expose, impose, deposit, posture, position, expound, impound
pop	people	population, populous, popular
Port	Carry	porter, portable, transport, report, export, import, support, transportation
portion	part, share	portion; proportion
post	after, behind	postpone, postdate
pot	power	potential, potentate, impotent
Pre-	Before	precede, prearrange, precook, preschool, pretest, prepaid, preview
Prehendere	seize, grasp	apprehend, comprehend, comprehensive, prehensile
prin, prim, prime	First	primacy, prima donna, primitive, primary, primal, primeval, prince, principal
pro	for, foward	propel
Proto	First	prototype, protocol, protagonist, protozoan, Proterozoic, protoindustrial
psych	mind, soul	psyche, psychiatry, psychology, psychosis
Punct	point, dot	punctual, punctuation, puncture, acupuncture, punctuation

Prefix /Suffix / Root	Meaning	Examples
quat, quad	four	quadrangle, quadruplets
quint, penta	five	quintet, quintuplets, pentagon, pentane, pentameter
quip	ship	equip, equipment
quir, quis, quest, quer	seek, ask	query, inquire, exquisite, quest
re-	back, again	report, realign, retract, revise, regain, rearm, retell, reappear, reenter, rehire, remarry, reread, retrace
reg, recti	straighten	regiment, regular, rectify, correct, direct, rectangle
retro	backwards	retrorocket, retrospect, retrogression, retroactive
ri, ridi, risi	laughter	deride, ridicule, ridiculous, derision, risible
rog, roga	ask	prerogative, interrogation, derogatory
rupt	break	rupture, interrupt, abrupt, disrupt, ruptible
sacr, sanc, secr	sacred	sacred, sacrosanct, sanction, consecrate, desecrate
salv, salu	safe, healthy	salvation, salvage, salutation
Sanct	Holy	sanctify, sanctuary, sanction, sanctimonious, sacrosanct
sat, satis	enough	satient, saturate, satisfy
scl, scio, scientia	know	science, conscious, omniscient, cognoscenti
Scope	see, watch	telescope, microscope, kaleidoscope, periscope, stethoscope
scrib, script	Write	scribe, scribble, inscribe, describe, subscribe, prescribe, manuscript
se	apart, move away from	secede
sect, sec	cut	intersect, transect, dissect, secant, section
sed, sess, sid	Sit	sediment, session, obsession, possess, preside, president, reside, subside
Semi	half, partial	semifinal, semiconscious, semiannual, semimonthly, semicircle
sen, scen.	old, grow old	senior, senator, senile, senescence, evanescent
sent, sens	feel, think	sentiment, consent, resent, dissent, sentimental, sense, sensation, sensitive, sensory, dissension
sept	seven	septet, septennial
sequ, secu, sue	Follow	sequence, consequence, sequel, subsequent, prosecute, consecutive, second, ensue, pursue
Serv	save, serve, keep	servant, service, subservient, servitude, preserve, conserve, reservation, deserve, conservation, observe

Prefix /Suffix / Root	Meaning	Examples
-ship	Noun: status, condition	relationship, friendship
sign, signi	sign, mark, seal	signal, signature, design, insignia, significant
simil, simul	like, resembling	similar, assimilate, simulate, simulacrum, simultaneous
sist, sta, stit	stand, withstand, make up	assist, insist, persist, circumstance, stamina, status, state, static, stable, stationary, substitute
soci	to join, companions	sociable, society
sol, solus	alone	solo, soliloquy, solitaire, solitude, solitary, isolate
solv, solu, solute	loosen, explain	solvent, solve, absolve, resolve, soluble, solution, resolution, resolute, dissolute, absolution
somn	sleep	insomnia, somnambulist
soph	wise	sophomore (wise fool), philosophy, sophisticated
spec, spect, spi, spic	look, see	specimen, specific, spectator, spectacle, aspect, speculate, inspect, respect, prospect, retrospective, introspective, expect, conspicuous
spor	render favorable	prosper
sphere	ball, sphere	sphere, stratosphere, hemisphere, spheroid
spir	Breath	spirit, conspire, inspire, aspire, expire, perspire, respiration
stand, stant, stab, stat, stan, sti, sta, st, stead	To stand or project	stature, establish, stance
-ster	person	mobster, monster
strain, strict, string, stige	bind, pull, draw tight	stringent, strict, restrict, constrict, restrain, boa constrictor
stru, struct, stroy, stry	Build	construe, structure, construct, instruct, obstruct, destruction, destroy, industry, ministry
sub, suc, suf, sup, sur, sus	under, below, from, secretly, instead of	sustain, survive, support, suffice, succeed, submerge, submarine, substandard, subnormal, subvert
sume, sump	take, use, waste	consume, assume, sump, presumption
super, supra	over, above	superior, suprarenal, superscript, supernatural, superimpose, supercede
syn, sym	together, at the same time	sympathy, synthesis, synchronous, syndicate
tact, tang, tag, tig, ting	Touch	tactile, contact, intact, intangible, tangible, contagious, contiguous, contingent
tain, ten, tent, tin	hold, keep, have	retain, continue, content, tenacious
tect, teg	cover	detect, protect, tegular, tegument

Prefix /Suffix / Root	Meaning	Examples
Tele	distance, far, from afar	telephone, telegraph, telegram, telescope, television, telephoto, telecast, telepathy, telepathy
tem, tempo	Time	tempo, temporary, extemporaneously, contemporary, pro tem, temporal
ten, tin, tain	Hold	tenacious, tenant, tenure, untenable, detention, retentive, content, pertinent, continent, obstinate, contain, abstain, pertain, detain
tend, tent, tens	stretch, strain	tendency, extend, intend, contend, pretend, superintend, tender, extent, tension, pretense
tera	trillion	terabyte, teraflop
term	end, boundary, limit	exterminate, terminal
terr, terra	earth	terrain, terrarium, territory, terrestrial
test	to bear witness	testament, detest, testimony, attest, testify
the, theo	God, a god	monotheism, polytheism, atheism, theology
Therm	Heat	thermometer, theorem, thermal, thermos bottle, thermostat, hypothermia
thesis, thet	place, put	antithesis, hypothesis, synthesis, epithet
tire	draw, pull	attire, retire, entire
Tom	Cut	atom (not cutable), appendectomy, tonsillectomy, dichotomy, anatomy
tor, tors, tort	Twist	torture, retort, extort, distort, contort, torsion, tortuous, torturous
tox	poison	toxic, intoxicate, antitoxin
tract, tra, trai, treat	drag, draw, pull	attract, tractor, traction, extract, retract, protract, detract, subtract, contract, intractable
Trans	across, beyond, change	transform, transoceanic, transmit, transportation, transducer
tri	three	tripod, triangle, trinity, trilateral
trib	pay, bestow	tribute, contribute, attribute, retribution, tributary
tribute	give	contribute, distribute, tributary
turbo	disturb	turbulent, disturb, turbid, turmoil
Typ	Print	type, prototype, typical, typography, typewriter, typology, typify
ultima	last	ultimate, ultimatum
umber, umbraticum	Shadow	umbra, penumbra, (take) umbrage, adumbrate
un-	not, against, opposite	unceasing, unafraid, unadventurous, unabbreviated, unfasten, unreal, unselfish, untangle, unwrapped,
Uni	One	uniform, unilateral, universal, unity, unanimous, unite, unison, unicorn

Prefix /Suffix / Root	Meaning	Examples
-ure	Noun: act, condition, function	exposure, conjecture, measure
Vac	Empty	vacate, vacuum, evacuate, vacation, vacant, vacuous
vade	go	evade, invader
vale, vali, valu	strength, worth	equivalent, valiant, validity, evaluate, value, valor
veh, vect	to carry	vector, vehicle, convection, vehement
ven, vent	Come	convene, intervene, venue, convenient, avenue, circumvent, invent, convent, venture, event, advent, prevent
ver, veri	true	very, aver, verdict, verity, verify, verisimilitude
verb, verv	word	verify, veracity, verbalize, verve
vert, vers	turn, change	convert, revert, advertise, versatile, vertigo, invert, reversion, extravert, introvert, diversion, introvert, convertible, reverse, controversy
vi	way	viable, vibrate, vibrant
vic, vicis	change, substitute	vicarious, vicar, vicissitude
vict, vinc	conquer	victor, evict, convict, convince, invincible
vid, vis	See	video, evident, provide, providence, visible, revise, supervise, vista, visit, vision, review, indivisible
viv, vita, vivi	alive, life	revive, survive, vivid, vivacious, vitality, vivisection, vital, vitamins, revitalize
voc, voke	Call	vocation, avocation, convocation, invocation, evoke, provoke, revoke, advocate, provocative
vol	will	malevolent, benevolent, volunteer, volition
volcan	fire	volcano, vulcanize, Vulcan
volv, volt, vol	turn about, roll	revolve, voluble, voluminous, convolution, revolt, evolution
Vor	eat greedily	voracious, carnivorous, herbivorous, omnivorous,
-ward	Adverb: in a direction or manner	homeward
-wise	Adverb: in the manner of, with regard to	timewise, clockwise, bitwise
with	against	withhold, without, withdraw, forthwith

PRACTICE EXERCISE

Instruction: For each question, choose the option where the prefix or suffix has NOT been used properly.

1. Un-
   a. unadventurous b. uncommitted c. unapprehensible
   d. unabbreviated e. untangle

2. -able
   a. reversable b. separable c. acceptable
   d. manageable e. none of these

3. dis-
   a. disarticulate b. disburden c. discomfortedly
   d. disforest e. disinterment

4. –cal
   a. ahistorical b. didactical c. paradisiacal
   d. eclectical e. topological

5. –ment
   a. banishment b. vestment c. adversement
   d. bafflement e. denouncement

6. In-
   a. indiscrete b. indiscrimination c. inbiased
   d. indiscretion e. indiscreet

7. Im-
   a. imprison b. immaterial c. impassive
   d. impatient e. none of these

8. Dis-
   a. discomposed b. disclose c. disconsolate d. discretion e. disact

9. ante-
   a. antebellum b. antecede c. antechamber d. antedate e. anteverse

10. mis-
    a. misadventure b. misaim c. misally
    d. misdecorate e. miscount

ANSWER KEY

1. C	2. A	3. C	4. D	5. C
6. C	7. E	8. E	9. E	10. D

SENTENCE COMPLETION

Sentence completion questions হচ্ছে এক ধরণের reading question. এক্ষেত্রে একটি বড় passage এর বদলে একটি sentence দেয়া থাকে যার একটি বা দু'টি word missing. আপনাদের কাজ হবে এই একটি বা দু'টি শূন্যস্থান পূরণ করার জন্য most suitable word (s) answer choice থেকে খুঁজে বের করা। নিচের উদাহরণটি দেখুনঃ

Example: At such a serious moment, your ------ is inappropriate.

a) courtesy b) pertinence c) levity d) solemnity e) wisdom

Courtesy অর্থ ভদ্রতা, pertinence অর্থ প্রাসঙ্গিকতা এবং wisdom অর্থ জ্ঞান, levity অর্থ আচরণের লঘুতা বা চপলতা এবং solemnity অর্থ ভাবগাম্ভীর্য।

এখন প্রশ্ন হচ্ছে serious moment (গুরুগাম্ভীর মুহূর্তে) - এ কি ধরণের আচরণ inappropriate (বেমানান)? Answer choice (c) অর্থাৎ levity (লঘু/চপল আচরণ)।

অন্য কোন শব্দ বসালে বক্তব্যটি meaningful হয় না।

এক্ষেত্রে সবচেয়ে important ব্যাপারটি লক্ষ্য করুন - আপনি যদি answer choice এর শব্দগুলোর অর্থ না জানেন, তাহলে এ ধরণের প্রশ্নের উত্তর দেয়া প্রায় অসম্ভব। সুতরাং এই section এ ভাল mark পেতে হলে আপনাকে অবশ্যই Vocabulary তে দক্ষ হতে হবে।

তবে আরেকটি কথা বলে রাখা প্রয়োজন। IBA এর admission test এর প্রথম চারবছর ছাড়া পরের বছরগুলোতে যেসব Sentence completion questions এসেছে, সেগুলোর maximum ছিল familiar (পরিচিত) words দিয়ে তৈরী। তাই আমাদের পরামর্শ এই যে, guide এর সবচেয়ে important অংশগুলো পড়া শেষ করে এই section এ মনোযোগ দিন। এই সময়টুকুর মধ্যে আপনার Vocabulary ও improve করবে।

যাই হোক, আমরা এখন sentence completion question এর nature এবং solution procedure নিয়ে আলোচনা করব।

Patterns of sentence development:

যখন আপনারা sentence completion question পড়বেন, first imagine the question stem as a paragraph. এরপর চিন্তা করুন কি technique অথবা method এই sentence এর thought develop করার জন্য use করা হয়েছে। এই technique/method identify করতে পারলে question answer করা অনেক সহজ হয়ে যাবে। বিভিন্ন technique/method/pattern নিচে আলোচনা করা হলো -

1) DEFINITION :

Definition question এ এক ধরণের restatement করা হয়, অর্থাৎ একটি word এবং ঐ word এর অর্থ একটি sentence এ থাকে। নিচের sentence -গুলোতে defined word টি parentheses এর ভিতর এবং definition টি underline করা থাকবে। Completion question এ either defined word টি অথবা definition এর একটা part missing থাকবে।

i) An (artist) is a dreamer consenting to dream of the actual world.

ii) (amusement) is the happiness of those that cannot think.

iii) Poverty is an (enigma) to rich people; it is very difficult to make out why people who want dinner do not ring the bell.

2) EXEMPLIFICATION :

Examples can awaken our senses, focus our thoughts, and stir our feelings. এজন্যই লেখকরা উদাহরণকে (examples) abstract words এর অর্থ বোধগম্য করার জন্য ব্যবহার করেন। নিচের example গুলোতে কঠিন শব্দটি অথবা বিভিন্ন অর্থবোধক শব্দটি parentheses এ রাখা হয়েছে এবং examples গুলো underline করা হয়েছে।

i) The (needy and adventurous), the gambling speculator, the dreaming land robbed the thriftless tradesman, the merchant with crashed credit – everyone driven to raise money by desperate means hurried to Mr. Jafar.

ii) Any struggle against the abuse of language is thoughtful a sentimental (archaism like preferring candles to electric light or hansom cabs to airplanes.

এ ধরনের question এ সাধারণত parentheses এর ভিতরের word টা missing থাকে।

3) COMPARISON:

এ ধরনের sentence completion questions এ সাধারণত একটি শব্দের অর্থকে illustrated করে দেয়া হয়। এই illustration এর সাথে compare করা যায় এমন কোন word answer choices থেকে বেছে নিতে হয়। নিচের example গুলোতে comparison টা underline করা আছে। এবং missing word টা parentheses দেওয়া আছে।

i) She'd a way of (laughing), too no longer the girlish giggle he knew but, a bright and limpid thing, like clear water sliding over a fall.

ii) (fatigue) flowed over him like warm water.

4) CONTRAST :

Contrast can help us understand meaning or shades of meaning. It tells us what something is like by telling us what it is not. "Although", "but", "however" প্রভৃতি শব্দ contrast নির্দেশ করে। "not that ---- but this" ধরণের expressions ও contrast নির্দেশ করতে পারে। নিচের example গুলোতে first key word টি parentheses এর ভেতর এবং second word টি অর্থাৎ বিপরীত শব্দটি underline করা আছে। দুটোর যে কোন একটা missing থাকতে পারে।

i) The greatest crimes are caused by (surfeit), not by want; men do not become tyrants so as not to suffer cold.

ii) Life must be lived (forward), but can only be understood backward.

iii) Whenever a doctor can't do (good), he must be kept from doing bad.

5) **CAUSE AND EFFECT :**

Sentences developed by cause and effect are statements of reasoning or argument. এক্ষেত্রে author একটি conclusion এ আসার চেষ্টা করেন। Since, for, because, therefore, so, why, when ---- then প্রভৃতি cause and effect reasoning এর signal words. নিচের example গুলোতে cause থাকলে parentheses এর ভিতরে, effect থাকবে underlined.

i) Liberty means (responsibility). That is why must men <u>fear</u> it.

ii) A man way take to drink because (the feels himself to be a failure) and <u>then fail all the more completely</u> because (he drinks).

Putting the Approach to Work:

On sentence completion questions, begin by reading the sentence carefully. As you read, fill in the blanks with your own words. Then look at the answers and search for one that means the same as yours. If you find a good answer, reread the sentence with its new "official" words. (Never test half an answer at a time. If a question sentence has two blanks, test both half of the answer at the same time). If you are satisfied with your sentence, go on to the next question. If you can't find a suitable answer on your first reading, follow this procedure.

1. Look for signal words and punctuation.
2. Look for patterns. Underline clues until you see how the sentence is developed – by definition by contrast? By cause and effect? By comparison? Search for an answer that fits the pattern.
3. Look for words that are especially reach in meaning. What ideas do they imply? What images do they suggest? Search for a matching answer.
4. Test each answer that still seems likely by reading it into the entire sentence.
5. If you still have no answer, but can eliminate one or more choices, you <u>must</u> guess.

1. Nonviolent demonstrations often create such tensions that a community that has constantly refused to -------its injustices is forced to correct them the injustices can no longer be --------
(A) acknowledge. . ignored (B) decrease . . verified (C) tolerate . . accepted
(D) indifference . . followers (E) explain . . discussed

2. Since 1813 reaction to Jane Austen's novels has oscillated between ------ and condescension; but in general later writers have esteemed her works more highly than did most -------- of her literary.
(A) dismissal . . admirers (B) adoration . . contemporaries (C) disapproval . . readers
(D) indifference . . followers (E) approbation . . precursors

3. there are, as yet, no vegetation types or ecosystems whose study has been -------- to the extent that they no longer ------- ecologists.
(A) perfected . . hinder (B) exhausted . . interest (C) prolonged . . require
(D) prevented . . challenge (E) delayed . . benefit

4. Under ethical guidelines recently adopted by the National Institutes of Health, human genes are to be manipulated only to correct diseases for which -------- treatments are unsatisfactory.
(A) similar (B) most (C) dangerous (D) uncommon (E) alternative

5. It was her view that the country's problems had been ------- by foreign technocrats, so that to invite them to come back would be counterproductive.
(A) foreseen (B) attacked (C) ascertained (D) exacerbated (E) analyzed

6. Winsor MCCay, the cartoonist, could draw with incredible -----
(A) sincerity (B) efficiency (C) virtuosity (D) rapidity (E) energy

7. e actual ------ of Wilson's position was always -------- by his refusal to compromise after having initially agreed to negotiate a settlement.
(A) outcome .. foreshadowed (B) logic . . enhanced (C) rigidity . . betrayed
(D) uncertainty . . alleviated (E) cowardice . . highlighted

8. The senator's reputation, though ------- by false allegations of misconduct, emerged from the ----- ordeal.
(A) shaken . . unscathed (B) destroyed . . intact (C) damaged . . impaired
(D) impugned. . unclear (E) tarnished . . sullied

9. This poetry is not ------ it is more likely to appeal to an international audience than is poetry with strictly regional themes.
(A) familiar (B) democratic (C) technical (D) complex (E) provincial

10. Experienced employers recognize that business students who can ------ different points of view are ultimately more effective as managers than are the brilliant and original students who ---- dogmatically to their own formulations.
(A) discredit .. revert (B) assimilate . . adhere (C) impose . . refer
(D) disregard . . incline (E) advocate . . relate

11. Poe's ------ reviews of contemporary fiction, which often find great merit in otherwise ----- literary gems, must make us respect his critical judgment in addition to his well-known literary talent.
(A) thorough . . completed (B) petulant .. unpopular (C) insightful .. unappreciated
(D) enthusiastic . . acclaimed (E) harsh . . undeserving

12. The significance of the Magna Carta lies not in its ------ provisions, but in its broader impact: it made the king subject to the law.
(A) specific (B) revolutionary (C) implicit (D) controversial (E) finite

13. The theory of cosmic evolution states that the universe having begun in a state of simplicity and ---- ------, has ---------- into great variety.
(A) equilibrium .. modulated (B) homogeneity .. differentiated
(C) contrast . . metamorphosed (D) proportion . . accelerated
(E) intelligibility . . developed

14. Not wishing to appear --------, the junior member of the research group refrained from ------- any criticism of the senior members plan for dividing up responsibility for the entire project.
(A) reluctant . . evaluating (B) inquisitive . . offering
(C) presumptuous . . venturing (D) censorious .. undercutting
(E) moralistic . . observing

15. In the British theater young people under thirty-five have not had much ----- getting recognition onstage, but of offstage - in the ranks of playwrights directors, designers, administrators - they have mostly been relegated to relative obscurity.
(A) trouble (B) satisfaction (C) curiosity about (D) success at (E) fear of

16. An institution concerned about its reputation is at the mercy of the actions of its members, because the misdeeds of individuals are often used to ------- the institutions of which they are a part.
(A) reform (B) coerce (C) honor (D) discredit (E) intimidate

17. Since many casual smokers develop lung cancer and many ------- smokers do not, scientists believe that individuals differ in their ------ the cancer-causing agents known to be present in cigarette smoke.
(A) heavy .. susceptibility to (B) chronic .. concern about (C) habitual .. proximity to
(D) devoted . . reliance upon (E) regular .. exposure to

18. We accepted the theory that as people become more independent of one another, they begin to feel so isolated and lonely that freedom becomes ------ condition that most will seek to ---------.
(A) a permanent .. postpone (B) a common .. enter (C) a negative .. escape
(D) a political .. impose (E) an irreparable .. avoid

19. If animal parents were judged by human standards, the cuckoo would be one of nature's more ------ creatures, blithely laying its eggs in the nests of other birds, and leaving the incubating and nurturing to them.
(A) mettlesome (B) lackluster (C) industrious (D) domestic (E) feckless

20. The current penchant for ----- a product by denigrating a rival, named in the advertisement by brand name, seems somewhat -------: suppose the consumer remembers only the rival's name?
(A) criticizing .. inefficient (B) touting .. foolhardy (C) enhancing .. insipid
(D) evaluating .. cumbersome (E) flaunting .. gullible

21. The crowd _____ after the chief of police announced that he would order his officers to open fire if everyone didn't go home.
A. dissembled B. gathered C. impeded D. dispersed E. pontificated

22. For several months before the Gulf War, the United Nations tried to persuade Iraq to pull its troops out of Kuwait by imposing an _____ on all exports to Iraq.
A. embroil B. entreat C. endear D. embargo E. envision

23. Cathedrals usually take decades, even centuries, to complete; thus, no one expected the national cathedral to be built with _____.
(A) dispatch (B) presumption (C) durability (D) deliberation (E) reverence

24. If both political parties can abandon _____ positions in the face of economic realities and _____ may be achieved that will permit the government to function.
A. sensible ---- compromise B. dogmatic ---- consensus
C. irrational ---- dichotomy D. reasoned ---- decomposition E. none of the above

25. Naqib is a _____ reader; he always has his nose buried in a book.
A. keen B. mad C. vivacious D. voracious E. charming

26. Whereas biologists must maintain a _____ attitude toward the subjects of their research, social scientists must, paradoxically, combine personal involvement and scholarly _____.
(A) scrupulous ... sympathy (B) careful ... abandon (C) casual ... precision
(D) passive ... passion (E) disinterested ... detachment

27. It is his dubious distinction to have proved what nobody would think of denying, that Romero at the age of sixty-four writes with all the characteristics of _____.
(A) maturity (B) fiction (C) inventiveness (D) art (E) brilliance

28. The staff complained that the management was _____, focusing on short-term profits while disregarding the long term welfare of the corporation.
(A) irresolute (B) officious (C) rancorous (D) punctilious (E) myopic

29. Opponents of the expansion of the market economy, although in _____, continued to constitute _____ political force throughout the century.
(A) error ... an inconsequential (B) retreat ... a powerful (C) disarray ... a disciplined
(D) jeopardy ... ineffective (E) command ... a viable

30. Many of the towns that have voted to keep incinerators in the country's solid waste plan have done so not because they necessarily _____ incinerators, but because they are _____ to narrow their waste-disposal options.
(A) disdain ... expecting (B) favor ... inclined (C) dote on ... eager
(D) approve of ... loath (E) deplore ... unwilling

31. The architects of New York's early skyscrapers, hinting here at a twelfth-century cathedral, there at a fifteenth-century palace, sought to legitimize the city's social strivings by_____ a history the city did not truly _____.
(A) revealing ... deserve (B) displaying ... desire (C) evoking ... possess
(D) preserving ... experience (E) flouting ... believe

32. When mortals died, whether noble or _____, they joined Re on his nocturnal journey through the underworld; _____ at dawn immortal, if all went well.
(A) ordinary ... occurred (B) common ... emerging (C) maudlin ... appeared
(D) impoverished ... woke (E) domestic ... summoned

33. It is paradoxical that String Theory inspires such widespread respect when it is so _____ that few could ever hope to master its claims.
(A) intractable (B) confusing (C) elevated (D) arcane (E) rigorous

34. The newborn human infant is not a passive figure, nor an active one, but what might be called an actively _____ one, eagerly attentive as it is to sights and sounds.
(A) adaptive (B) selective (C) inquisitive (D) receptive (E) intuitive

35. He's a _____ old man who will fly into a rage at the slightest _____.
(A) precocious...annoyance (B) prudent...instigation (C) tenacious...insult
(D) captious...amelioration (E) querulous...provocation

36. The new CEO of the company is both _____ and _____; he works twelve hours a day and has never had an alcoholic beverage.
(A) eccentric...permissive (B) diligent...indulgent (C) assiduous...abstinent
(D) admirable...noteworthy (E) intrepid...nonchalant

37. As much as she wanted to listen to both speakers, she couldn't because the talks were _____.
(A) concurrent (B) biannual (C) garrulous (D) sequential (E) independent

38. She found that fame was both _____ and _____; not only was it difficult to get her book published, but when she did, members of the media quickly lost interest in it.
(A) destructive...counterproductive (B) evanescent...gratifying
(C) tedious...deleterious (D) elusive...ephemeral (E) fulfilling...subtle

39. Although NASA would prefer to land the space shuttle in Florida, California is a _____ alternative; the shuttle has landed safely on the west coast several times.
(A) problematic (B) specious (C) deplorable (D) viable (E) perilous

40. "Enough you have disturbed! Don't force me to block you in facebook." - she_____.
(A) implored (B) expressed (C) enforced (D) explained (E) screamed

ANSWER KEY

1. A	2. B	3. B	4. E	5. D	6.C	7. C	8. A	9.E	10. B
11. C	12. A	13. B	14. D	15. A	16. D	17. A	18. C	19. E	20. A
21. D	22. D	23. A	24. B	25. A	26. E	27. A	28. E	29. B	30. D
31. C	32. B	33. D	34. D	35. E	36. C	37. A	38. D	39. D	40. E

GRAMMAR

IBA ভর্তি পরীক্ষায় Language and Communication' section এর সবচেয়ে important part হচ্ছে grammatical problem. এই অংশে কয়েকটি specific pattern follow করা হয়ে থাকে। তবে grammar বলতে অবশ্যই voice change বা narration বা transformation বোঝায় না।

IBA এর ভর্তি পরীক্ষায় সাধারণত students দের basic knowledge পরীক্ষা করা হয়। সবচেয়ে বেশি প্রাধান্য পায় correct usage (সঠিক ব্যবহার)। কোন শব্দের ব্যবহার কোন sentence -এ সঠিক অথবা কোন preposition, conjunction etc.

কোন জায়গা বসা উচিত এধরণের বিষয়ের উপর questions করা হয়। Fill in the gaps, sentence correction, error detection প্রভৃতি এ section এর common types of questions.

এই review section -এ আমরা প্রতিটি section এর example এবং exercise সহ একটি common guideline students দের জন্য provide করেছি। এই guideline -এ প্রদত্ত rules গুলি ঠিকমত follow করতে পারলে grammar questions গুলো সহজেই solve করা যাবে। ইদানীংকার IBA question এ fill in the gaps question এর প্রাধান্য লক্ষ্য করা যাচ্ছে যেগুলো সাধারণত correct English usage এর উপর করা হয়।

Now, let's start with some sample questions from the real test.

IBA admission test '08-'09 এর একটি error detection question ছিল নিম্নরূপ ঃ

It is far rewarding to strive and fail than to success without trying. No error.
A B C D E

এই sentence টিতে Success এর পরিবর্তে Succeed হবে কারণ এখানে to strive এর parallel to Succeed ব্যবহার করতে হবে। তাই answer হবে (D)

IBA admission Test '05-'06 এর একটি error detection question দেখা যাক

Admittance for the inauguration ceremonies was only by special invitation of the committee.
A B C D

No Error.
E

এই sentence টিতে 'admittance' এর পরিবর্তে 'admission' হবে। এক্ষেত্রে answer choice (A).

IBA ভর্তি পরীক্ষার কোন নির্দিষ্ট syllabus নেই। তাই নতুন কোন section include করলে অবাক হওয়ার কিছু নেই। নিচের example টি লক্ষ্য করুন।

She not only was competent but also friendly.

আপনাকে বের করতে হবে এই underlined অংশটি আদৌ ভুল কিনা এবং ভুল হলে সঠিক expression কি হবে।

Answer choice গুলো নিচে দেওয়া হলো ঃ

A) not lonely was competent but also friendly.
B) was not only competent but friendly also.
C) not only was competent but friendly also.
D) was not only competent but also friendly.
E) not was onl competent but also friendly.

Choice (A) তে question কে হুবুহু repeat করা হয় অর্থাৎ কোন ভুল না থাকলে answer হবে (A). এখন খেয়াল করুন, এক্ষেত্রে mistake টা কিন্তু শুরুতেই। 'Not only was competent' এর জায়গায় 'was not only competent' হবে।

Answer choice (B) তে এ অংশটুকু ঠিকভাবে দেয়া আছে।

কিন্তু এটা আসলে একটা trap. (B) তে original sentence এর ভুলটা correction করা হয়েছে ঠিকই, কিন্তু original sentence এর আরেকটা সঠিক অংশকে আবার ভুলভাবে express

করা হয়েছে। এখানে 'but also friendly' কে 'but friendly also' করে দেয়া হয়েছে। সুতরাং be careful. সঠিক answer হবে (D).

Appropriate usage সংক্রান্ত **BBA admission test '09-'10** এর একটি question observe করা যাক -

Identify the sentence(s) that is/are showing the correct use of underlined words:

(i) The auctioneer was describing the antique in his hand to induce the audience to bid for it.
(ii) Some of the things he inherited can actually be called antiques!
(iii)It was absurd how they antiquated the chosen items to increase their value.

A) Both (i) and (ii)
B) Both (i) and (iii)
C) Both (ii) and (iii)
D) (i) only
E) All three sentences

এখানে (i) এবং (ii) sentence গুলো grammatically correct. (iii) তে antiquated – word টি verb হিসাবে use হয়েছে। কিন্তু শব্দটি adjective. Answer: (A)

আমরা এই Section এ common mistakes গুলো নিয়ে কিছু আলোচনা করব এবং এর পরপরই থাকবে Basic rules নামক একটি অংশ। পরের অংশটিতে বেশকিছু rules এবং সেগুলোর example থাকবে।
এই rules গুলো ঠিকমত বুঝতে পারলে grammatical questions solve করা খুবই সহজ হয়ে যাবে।

Some Basic Concepts:

- A noun is a word used to name a person, place, thing, or idea.
- A verb is a word that expresses action.
- An adverb is a word that modifies the verb, an adjective or another adverb.
- An adjective is a word that modifies a noun.
- A preposition is a word that notes the relation of a noun to an action or a thing.
- A phrase is a group of words acting as a single part of speech. A phrase is missing either a subject or a verb or both.
- A prepositional phrase is a group of words beginning with a preposition. Like any phrase a prepositional phrase does not contain both a subject and a verb.
- A pronoun is a word that takes the place of a noun.
- A clause is a group of words containing a subject and a verb.

THE FOUR MAJOR ERRORS

1. **PRONOUN ERRORS :** দুই ধরণের pronoun error basically দেখা যায়।

The first one is called **pronoun reference.**

Shudipta and Farah went shopping, but she couldn't find anything she like.

এই sentence -এ 'she' pronoun টি ambiguous (দ্ব্যর্থবোধক) এটি Shudipta ও Farah দু'জনের যেকোন একজন কে refer করতে পারে। সুতরাং Sentence টি লেখা উচিত এভাবে

Shudipta and Farah went shopping, but Shudipta couldn't find anything she liked.

অথবা

Shudipta and Farah went shopping, but Farah couldn't find anything she liked.

অথবা

Shudipta and Farah went shopping, but they couldn't find anything they liked.

The second type of error is called **pronoun case**.
Here is a simple example:
The average male moviegoer expects to see at least one scene of violence per film, and they are seldom disappointed.

এক্ষেত্রে, 'they' pronoun টি অবধারিতভাবে average male moviegoer কে refer করছে, so there is no ambiguity of reference. However, "The average male moviegoer" is singular. "They" cannot be used to take the place of a singular noun. একমাত্র একটা উপায়েই এই error টি correction করা যায়:

The average male moviegoer expects to see at least one scene of violence per film, and ***he*** is seldom disappointed.

HOW DO YOU SPOT A PRONOUN ERROR

That's easy, look for pronouns. Here's list of common pronouns. (You don't need to memorize these, just be able to recognize them).

Singular	Plural	Can be singular or plural
I, me	me, us	none
he, him	they, them	any
she, her	both	you
you	some	who
it	these	which
each	those	what
another	that	theirs
either		
neither		
one		
other		
such		
mine		
yours		
his, hers		
ours		
this		
that		

Every single time you spot a pronoun, you should immediately ask yourself the following two questions:

- Is it completely clear, not just to me but to a pedantic test-writer, **who** or **what** the pronoun is referring to?
- Does the pronoun agree in number with the noun it is referring to?

If any of the answers is **no**, you've spotted the error.

2. **MISPLACED MODIFIERS** : Let's take the following example :
Coming out of the department store, John's wallet was stolen.

যখন participial phrase (a phrase that starts with a verb ending in 'Ing') দিয়ে কোন sentence শুরু হয়, সেই phrase টার কাজ হচ্ছে যে noun অথবা pronoun phrase টিকে immediately follow করেছে তাকে modify করা।

Was the 'wallet' coming out of the department store? No.

দুইভাবে sentence টিকে ঠিক করা যায়।
First, আমরা sentence টির second half এভাবে change করতে পারি,
Coming out of the department store, John was robbed of his wallet.
এখন sentence টি সঠিক, কারণ participial phrase টি noun John কে modify করেছে।
অথবা, আমরা sentence টির first half কে change করতে পারি-
As John was coming out of the Department store, his wallet was stolen.

OTHER FORMS OF MISPLACED MODIFIERS:

A) Participial phrases preceded by a preposition :
On leaving the department store, John's wallet was stolen.
(Correct: On leaving the department store, John was robbed of his wallet.)

B) Adjectives :
Frail and weak, the heavy wagon could not be budged by the old horse.

(Correct: Frail and weak, the old horse could not budge the heavy wagon.)

C) Adjective phrases :
An organization long devoted to the cause of justice, the mayor awarded a medal to the American civil Liberties Union.
(Correct: An organization long devoted to the cause of justice, the American civil liberties union was awarded a medal by the mayor.)
In each of these examples, the modifying phrase modified the wrong noun or pronoun.

HOW DO YOU SPOT A MISPLACED MODIFIER

That's also easy. Whenever a sentence begins with a modifying phrase followed by a comma, the noun or pronoun right after the comma should be what the phrase is talking about. Every single time you see a sentence that begins with a modifying phrase, check to make sure it modifies the right noun or pronoun. If it doesn't, you've spotted the error in the sentence.

3. PARALLEL CONSTRUCTION: দুই ধরণের parallel construction problems হতে পারে। The first is a sentence that lists there things, or has a series of actions set off from one another by commas, for example,

The film was **exciting, interesting**, and *it was made well.*
উপরের Sentence এ main verb হচ্ছে was. এই was verb টি sentence এর adjective গুলোকে Control করছে। কিন্তু it was made well একটি clause যেটিকে main verb control করছে না। সুতরাং এই clause কে change করে adjective বানাতে হবে।

The Cinema was exciting, interesting and **well-made.**
এখানে নিয়মটা হচ্ছে - when a main verb controls several parts of a sentence that follow it, each of those parts has to be set up in the same way.

The second kind of problem regarding parallel construction is a sentence that is divided into two parts. নিচের example টি লক্ষ্য করুন -

To say that the song patterns of the common robin are less complex than those of the indigo bunting is doing a great disservice to both birds.

Sentence এর প্রথম অংশটি যদি একটি particular way তে construct করা হয়, তাহলে দ্বিতীয় অংশটিও সেইভাবে construct করতে হবে। প্রথম অংশটি শুরু হয়েছে এভাবে To ----, সুতরাং দ্বিতীয় অংশটিও এভাবে শুরু হওয়া উচিত।

To say that the song patterns of the common robin are less complete than those of the indigo bunting is **to do** a great disservice to both birds.

HOW DO YOU SPOT PARALLEL CONSTRUCTION

Every time you read a sentence correction or error detection problem, look to see if you can find a series of actions, a list of three things, or a sentence that is divided into two parts. If you find any of these, you've spotted the problem. Now check whether the series of actions/the three sentences are constructed in a parallel way. If not, you've found the error.

4. **IDIOMS:** Idiomatic expression এর problem অত্যন্ত common একটি problem.

Here's an easy example:

There is little doubt that the larger corporations are indebted **for** the small companies that broke new ground in laser optics.

Idiomatic expressions এর সবচেয়ে বড় সমস্যা হচ্ছে যে এর জন্য কোন specific rule নেই। Each idiom has its own particular usage. There is no real reason why an idiomatic expression is correct. It is simply a matter of custom. উপরের sentence এর ক্ষেত্রে যেমন 'indebted for' এই expression টি correct নয়। এখানে 'indebted to' হবে -

There is little doubt that the larger corporations are indebted **to** the small companies that broke new ground in laser optics.

HOW DO YOU SPOT IDIOMATIC ERRORS

If you've gone through the first three items on your checklist – pronouns, misplaced modifiers, and parallel construction – and still haven't found an error, try pulling idiomatic expressions out of the sentence so you can see whether they're correct. Then make up your own sentence using the suspect idiom. Does the idiom sound correct? If not, you've spotted the error.

প্রথমেই বলেছি এই চার ধরণের error হচ্ছে major errors. আরও অনেক ধরণের error থাকতে পারে।সেগুলোর উপর বেশ কিছু rules আমরা দিয়েছি। Example সহ এসব rules গুলো পড়ে পড়ে বোঝার চেষ্টা করুন। বুঝতে না পারলে elaborate explanation এর জন্য Cliffs TOEFL বা Raymond Murphy র grammar বই consult করুন।

এই বইয়ের grammar অংশকে আরো দুটি ভাগে ভাগ করা হয়েছে।

(1) Basic Knowledge on English Grammar;

(2) Review of Grammatical Structures.

Try to go through these sections one by one.

Basic Sentence Structure

When you write an English sentence, you must remember three basic things. Subject, verb, and compliment are the essential parts of any correct sentence without which the sentence makes no sense. You may, however, sometimes come across sentences without any compliment. Nevertheless, subject and verb can never be dropped out of any correct English sentence.

She	visits	the zoo	everyday.
Subject	Verb	Complement	modifier

Rahman	is	studying.
Subject	Verb	Complement

Parts of Speech

The words that we use in a sentence are called parts of speech. There are eight types of parts of speech; that means English words can be classified into eight types.

Noun
Pronoun
Verb
Adjective
Adverb
Preposition
Conjunction
Interjection

Nouns are the names of persons, objects, places, or anything else. A noun can be either Count or Non-count. Count nouns are measured in numbers. They can take singular or plural form. Non-count nouns are measured in quantities. They always take a singular form. The English language module of Mentors' has a detailed discussion on this.

Pronouns are used to substitute the nouns. A pronoun performs the functions as noun. Pronouns can be subject or object, relative, reflexive, emphatic, and possessive. There is a basic difference between possessive pronoun and possessive adjective. When you say "This is **my** pen", you are using a possessive adjective. You are using a possessive pronoun when you say, "This pen is **mine**." See the English language module of Mentors' for detailed discussion on pronouns.

Verbs are action words. They are driving forces of any sentence. Verbs can take present, past, or participle form. You have to change the form your verb according to the subject and tense of your sentence. Main verbs in an independent sentence are called finite verbs. Main verbs in a dependent sentence are called infinite verbs. There are, of course, auxiliary and principal verbs. Auxiliary verbs don't express the actual action; they are used to express the tense of the sentence.

Adjectives are words that describe or qualify other words. Suppose you are praising your girlfriend saying that she is **pretty**, or your teacher scolds you by saying that you are **lazy**. In both cases, we are using adjectives. Please remember that adjectives qualify **only nouns** and **pronouns.**

On the other hand, ***adverbs*** qualify the other parts of speech. It describes adjectives, verbs, and even adverbs. In most cases, we get an adverb by just adding "ly" or "ally" at the end of an adjective. He is an **efficient** player. He plays **efficiently**. Here, **efficient** is the adjective because it qualifies **He**; whereas, **efficiently** is the adverb since it describes **plays.**

Prepositions are short words that express the relationship between two parts of speech. Suppose, you see a book lying **on** the table; how do you relate the words table and book? The preposition **on** helps you do that. You have bought a gift **for** your sister. The preposition **for** helps establish a link between the book and sister.

Conjunctions are words used to connect two independent clauses or items in a series. Rahman is a brilliant student **and** he is regular at his studies. Here, **and** is the conjunction. The best batsmen in today's cricket include Tendulkar, Dravid, Lara, Ponting, and Kallis. We have used **and** to connect the last item with the rest of the group.

Interjections are simple translations of Bangla words like hai-hai, o-ma, yahoo etc. They express sudden expression or outburst of emotional feeling. For example: **Alas!** He has lost his father. **Hurray!** Ganguly has won the match for India by himself.

Count and non count nouns

In English, there are two kinds of nouns: count nouns and non-count nouns. It is important to understand the difference between them, because they often use different articles, and non-count nouns usually have no plural

Count nouns

They deal with things that we can count: one dog, a mule, one man, the barber shop. They usually have a singular and plural form: two dogs, ten mules, six men, ten barber shops.

Non count nouns

They deal with things that we do not usually count: tea, sugar, water, air, rice, etc. or for abstract ideas or qualities such as knowledge, beauty, anger, fear, love.

They do not usually have a plural form. Examples of common uncountable nouns: money, advice, information, furniture, happiness, sadness, news, research, evidence, safety, beauty, knowledge.
You can usually work out whether a noun is count or non-count by thinking about it. Count nouns are usually objects which can be counted. Non-count nouns are often substances (such as sand, water or rice) which cannot be easily counted, or they may be large abstract ideas such as "nature", "space" or "entertainment".

You can put **"a"** or **"an"** before count nouns. For example: I have **an** apple. She doesn't need **a** table. You can also use "How many" with count nouns: How many horses are there in the farm? You can put **"some"** before non count nouns. For example: I have **some** chocolate at the party. I just had **some** rice for lunch. You can also use "How much" with non-count nouns: How much traffic is there in San Francisco?

Container, Piece, and Measurement Words

Many things that you can buy in a supermarket are non count i.e. soap, cereal, butter, beef, ice, etc. However, we often want to talk about certain quantities of these things. In order to do this, we divide them into units that can be counted. Here is where the container words become handy.

Container words: a can of..., a box of..., a bowl of ..., a glass of ...i.e. I bought two boxes of cereal. **Piece words:** a piece of, a slice of..., a bar of ...i.e. A slice of pizza. Who needs a piece of paper? **Measurement words:** a quart of..., a liter of...: i.e. She has to get two quarts of milk.

Use of Articles

A / AN: indefinite articles

Use *'a'* with nouns starting with a ***consonant*** *(letters that are not vowels),* *'an'* with nouns starting with a ***vowel*** *(a, e, i, o, u)*

Examples:

A boy, An apple, A car, An orange, A house, An opera

NOTE:
An before an *h* mute - an hour, an honor. A before *u* and *eu* when they sound like 'you': a European, a university, a unit

The indefinite article is used:

to refer to something for the first time: ***An elephant*** and ***a mouse*** fell in love. Would you like ***a drink?*** I've finally got ***a good job.***

to refer to a particular member of a group or class

Examples:

with names of jobs: John is ***a doctor.*** Mary is training to be ***an engineer.*** He wants to be ***a dancer.***

with nationalities and religions: John is ***an Englishman.*** Kate is ***a Catholic.***

with musical instruments: Sherlock Holmes was playing ***a violin*** when the visitor arrived. (BUT to describe the activity we say, "He plays the violin.")

with names of days: I was born on ***a Thursday***

to refer to a kind of, or example of something: the mouse had ***a tiny nose*** the elephant had ***a long trunk*** it was ***a very strange car***

with singular nouns, after the words *'what'* and *'such'*: What ***a shame!*** She's such ***a beautiful girl.***

meaning 'one', referring to a single object or person: I'd like ***an orange*** and two lemons please. The burglar took ***a diamond necklace*** and ***a valuable painting.***

Notice also that we usually say ***a hundred, a thousand, a million.***

THE: definite article

Articles in English are invariable. That is, they do not change according to the gender or number of the noun they refer to, e.g. **the boy, the woman, the children**

'The' is used:

1. to refer to something which has already been mentioned.

Example: An elephant and a mouse fell in love.

The mouse loved **the elephant's** long trunk, and **the elephant** loved **the mouse's** tiny nose.

2. when both the speaker and listener know what is being talked about, even if it has not been mentioned before.

Example: 'Where's **the bathroom?**'

'It's on **the first floor.**'

3. in sentences or clauses where we define or identify a particular person or object:

Examples: **The man** who wrote this book is famous.

'Which car did you scratch?' '**The red one.**

My house is **the** one with a blue door.'

4. to refer to objects we regard as unique:

Examples: **the sun, the moon, the world**

5. before superlatives and ordinal numbers: (see Adjectives)

Examples: **the highest** building, **the first** page, **the last** chapter.

6. with adjectives, to refer to a whole group of people:

Examples: **the** Japanese (see Nouns - Nationalities), **the** old

7. with names of geographical areas and oceans:

Examples: **the** Caribbean, **the** Sahara, **the** Atlantic

8. with decades, or groups of years:

Example: she grew up in **the** seventies

EXCEPTIONS TO USING THE DEFINITE ARTICLE

There is **no** article:

with names of **countries** (if singular)

Germany is an important economic power.

He's just returned from ***Zimbabwe***.

(**But:** I'm visiting ***the United States*** next week.)

with the names of **languages**

French is spoken in Tahiti.

English uses many words of ***Latin*** origin.

Indonesian is a relatively new language.

with the names of **meals.**

Lunch is at midday.

Dinner is in the evening.

Breakfast is the first meal of the day.

with people's **names** (if singular):

John's coming to the party.

George King is my uncle.

(But: we're having lunch with ***the Morgans*** tomorrow.)

with **titles** and **names**:

Prince Charles is ***Queen Elizabeth's*** son.

President Kennedy was assassinated in Dallas.

Dr. Watson was Sherlock Holmes' friend.

(But: ***the Queen of England, the Pope***.)

After the **'s** possessive case:

His brother's ***car***.

Peter's ***house***.

with **professions**:

Engineering is a useful career.

He'll probably go into ***medicine***.

with **names of shops**:

I'll get the card at ***Smith's***.

Can you go to ***Boots*** for me?

with **years**:

1948 was a wonderful year.

Do you remember ***1995***?

With **uncountable nouns**:

Rice is the main food in Asia.

Milk is often added to ***tea*** in England.

War is destructive.

with the names of **individual mountains, lakes and islands**:

Mount McKinley is the highest mountain in Alaska.

She lives near ***Lake Windermere***.

Have you visited ***Long Island***?

with most **names of towns, streets, stations and airports**:

Victoria Station is in the centre of London.

Can you direct me to Bond Street?

She lives in Florence.

They're flying from Heathrow.

Changing voice

Sentences are active when the subject itself is responsible for the action in the sentence. Sentences are passive when the subject does not perform the action. Instead, the subject receives an action or is the result of an action. The person or thing that performed the action may be unimportant or unknown in a passive sentence.

The passive voice is formed with a form of **be** and the **past participle** of the main verb. For example: Dinner **is served** from 5:00 to 8:00. many people **were injured** by the tornado last night. The letter was mailed by Nick.

Passive sentences focus on the noun that is the receiver or result of an action rather than the noun that is performing the action (the agent). In fact passive sentence very often do not mention the agent at all. For example: Super computers were developed in order to solve complex problems. The mail is delivered at noon.

Passive sentences are used to make sentence sound more impersonal. For example: Passengers are requested to remain seated. An errors was made in this months payroll.

Clauses and phrases

When we combine a group of words, we try to express something. The meaning of the combination of words should be understandable. However, not all meaningful groups of words are sentences. When the group words have a verb, it can be called a clause. Otherwise, it is termed as a phrase. A sentence must have at least one complete clause.

Look at this group of words- "Harbhajan's off spin". These words do make sense; they convey a meaning, yet they do not have the verb within themselves. That is why we ca not call them a clause. A group of words that makes sense but doesn't have a verb can be phrase. A phrase alone cannot form a sentence.

On the other hand, "Cairns is the best all rounder in the world" is a complete clause because it has a finite verb. Therefore, one can use this group of words as a sentence.

A clause, if sufficiently independent to be a separate sentence, can be called a main clause. A dependent clause, on the other hand, cannot stand as a separate sentence. " I will go to school" is a main clause. However, " after I go to school" is a dependent clause. If one remains indiscreet about the type of clause used in one's sentences, there is highly possibility of a grammatical error.

Simple sentence

A simple sentence has only one finite verb. If you remember the basic sentence structure discussed at the beginning of this section, you will recognize only one such structure in a simple sentence. For example: "Zahir bowled a perfect yorker." "Kumble defeated the batsman with his drift."

Compound Sentences

A compound sentence is made up of two simple sentences joined by a comma and a coordinating conjunction or by a semicolon. For example:

Mary is going to the party and she is wearing her red dress.
I can't speak now, but I will soon.
Over 10 percent of the students dropped out; They were forced out by poverty.

Complex Sentences

A complex sentence is made up of a simple sentence and one or more dependent or subordinate clauses. There are three different types of subordinate clauses:

Adverbial clauses are introduced by a subordinating conjunction such as after, although, as, because, before, once, though, until, whether, if, how, while, where, while. For example:

While I was at the bathroom, a big fight started in the dancing area.

Adjective clauses are introduced by relative pronouns such as who, whom, that, which, whichever, whomever, whoever. For example: You may invite whomever you like to the party.

Noun Clauses are introduced by **that, whether, if,** or **questions words**. For example: It would be interesting to know where Susan is from.

Fragments

A fragment or incomplete sentence is a subordinate clause that stands alone, or it is without an independent clause. In written academic English it is never appropriate. However, in spoken English it is very common to use incomplete sentences or fragments. For example:

Why did you miss classes yesterday?
Because I was sick. (I missed classes because I was sick)
Beautiful day! (It's a beautiful day!)
Found an apartment yet? (Have you found an apartment yet?

An ***adverb clause*** is a group of words that contains a subject and a verb of its own, but can not stand as a separate sentence, and that works to qualify the verb of the main clause of the sentence. Usually, an adverb clause tells how, when, why, or where the verb has been enacted. For example, "I will leave after my dad returns." Here, "after my daddy returns" suggests that when the verb leave will be enacted.

An ***adjective clause***, another type of dependent clause, tells the quality of a noun of the main clause that the adjective clause directly succeeds. It has no relation whatsoever with the verb of the main clause; its sole purpose is to clarify the noun by using a relative pronoun. "This is the man who helped me a lot." Here, "who helped me a lot" describes the man in the main clause.

Adjective clauses are also called **relative clauses**. They come after nouns and modify them. In other words, they tell the listener or reader more about the person or thing that the noun refer to. The pronouns that often begin adjective clauses are called relative pronouns (**that, which, who, whom, whose, where**) For example: A person who sweeps the floor on buildings is known as janitor. A person who sails is a sailor.
The man who sold the red house is a friend of mine

A ***noun clause***, the last type of dependent clause, works as the subject or object of the main clause. For example, "who committed the crime is still unknown." Here, "who committed the crime" is the subject for the entire sentence. "Saurav could not believe what his bowlers were doing." Here, "what his bowlers were doing" is the object for the whole sentence.

Noun Clauses as Subjects

Noun clauses are **that** clauses that have a subject and a verb. There is no comma between the main clause and the **that** clause. For example: That several students came late to class annoyed the professor. The fact that you are from South America made you ideal for the job. It is common in speaking to move the noun clause to the end of the sentence and to put it in the subject position e.g. It annoyed the teacher that Albert smoked in class.

Noun Clauses as Objects

In this case, the word **that** is put before the clause, but it is not required e.g. The teacher reported that Albert smoked in class. or The teacher reported that Albert smoked in class.

Conditional Sentences

A ***conditional sentence*** is a sentence that has a dependent clause denoting condition to the main clause. For example: He can do the job if we help him. Here, the dependent clause is imposing a condition to the main clause.

There are various ways to writing a conditional sentence; the meaning of the sentence changes along with the structure. We are providing a summary of how any correct conditional sentence may look like.

IF-CLAUSE	RESULT CLAUSE	Explanation
simple present verb	simple present verb	if-clause uses simple present result clause uses simple present
If it rains, If it gets cold enough, If I don't do my homework,	my car window leaks. water becomes ice. I learn nothing.	<-expresses an established or predictable fact, or it expresses a general truth
If Marie doesn't eat dinner, If I exercise,	she gets hungry at midnight. I look great!	<-expresses a habitual situation or a habitual activity.
If someone calls,	take a message please.	<-gives a command
simple present verb	modal + simple present verb	if-clause uses simple present result clause uses modal + verb
If it rains,	my window might leak.	<-expresses a fact
If the phone rings,	I will answer it.	<-expresses a future situation
If the weather is sunny,	we can go to the beach Sunday.	<-expresses a future activity

REVIEW OF GRAMMATICAL STRUCTURES WITH EXAMPLES

ADJECTIVES AND ADVERBS

Adjectives noun এবং pronoun কে modify করে Adverb modify করে verbs, adjectives, এবং অন্যান্য adverbs কে। নীচে adjective এবং adverb জনিত ভুলগুলো কিভাবে হয় এবং কিভাবে ঠিক করতে হয় তা আলোচনা করা হলো।

(1) Linking verbs are followed by adjectives, not adverbs. Here is a list of common linking verbs:

be	remain
become	feel
appear	smell
look	sound
seem	taste

Note that some of the verbs listed as linking verbs may sometimes function as verbs of action:

Adjectives	**Adverbs**
I feel *tired*.	I felt my way *slowly* in the darkness.
He looked *angry*.	He looked about the room *angrily*.
The pie tastes *delicious*.	She tasted the pie *cautiously*.

(2) Verbs are modified by adverbs, not by adjectives:

Mr. Monir is a good teacher.	Mr. Monir teaches well.
Her brother is a bad driver.	He drives badly.
There has been a considerable change in the weather.	The weather has changed considerably.
My sister is a superb dancer.	My sister dances superbly.
The teacher gave a quick explanation of the problem.	The teacher explained the problem quickly.
This is a slow exercise.	This exercise must be done slowly.

WRONG: The girl looks ***intelligently***.
RIGHT: The girl looks ***intelligent***.
WRONG: That perfume smells ***sweetly***, doesn't it?
RIGHT: That perfume smells ***sweet***, doesn't it?
WRONG: They physician appeared ***nervously*** when he talked to the patient.
RIGHT: The physician appeared ***nervous*** when he talked to the patient.
WRONG: This bed seems very ***comfortably***.
RIGHT: This bed seems very ***comfortable***.
WRONG: I felt ***badly*** about forgetting the appointment.
RIGHT: I felt ***bad*** about forgetting the appointment.
WRONG: We all agreed that the new film was ***real*** good.
RIGHT: We all agreed that the new film was ***really*** good.
WRONG: The students found the physics examination ***extreme*** difficult.
RIGHT: The students found the physics examination ***extremely*** difficult.
WRONG: If you speak ***firm***, he will listen to you.
RIGHT: If you speak ***firmly***, he will listen to you.
WRONG: He made ***considerable*** more progress than I.
RIGHT: He made ***considerably*** more progress than I.
WRONG: The professor presented an ***obvious*** important point in class.
RIGHT: The professor presented an ***obviously*** important point in class.
WRONG: He said that the medicine tasted ***terribly***.
RIGHT: He said that the medicine tasted ***terrible***.
WRONG: It rained ***steady*** all day yesterday.

RIGHT: It rained ***steadily*** all day yesterday.
WRONG: The dog remained ***faithfully*** to its master until the end.
RIGHT: The dog remained ***faithful*** to its master until the end.
WRONG: He can do the job ***easier*** than you can.
RIGHT: He can do the job ***more easily*** than you can.
WRONG: The problem seemed ***exceeding*** complex to me.
RIGHT: The problem seemed ***exceedingly*** complex to me.

(3) Negative adverbs, such as hardly, seldom, rarely, and never, should not be used with other negatives.

WRONG: He ***hasn't never*** seen a copy of our latest book.
RIGHT: He ***has never*** seen a copy of our latest book.
or
He ***hasn't ever*** seen a copy of our latest book.
WRONG: He rarely eats at that restaurant, ***doesn't he***?
RIGHT: He rarely eats at that restaurant, ***does he***?
WRONG: I ***can't scarcely*** believe it's true.
RIGHT: I ***can scarcely*** believe it's true.
WRONG: I ***hadn't hardly*** gotten out the door when the phone rang again.
RIGHT: I ***had hardly*** gotten out the door when the phone rang again.

(4) When these and those are used as demonstrative adjectives, they must be followed by a plural noun.
WRONG: These ***combination*** of chemicals can be dangerous.
RIGHT: These ***combinations*** of chemicals can be dangerous.
WRONG: Those ***kind*** of jackets are very popular.
RIGHT: Those ***kinds*** of jackets are very popular.
or
That kind of jacket is very popular.

(5) Some adjectives and adverbs have the same form, such as fast, hard, right, straight, and late.
WRONG: Several people arrived too ***lately*** to be admitted to the performance.
RIGHT: Several people arrived too ***late*** to be admitted to the performance.
WRONG: The horse ran ***fastly*** enough to win the race.
RIGHT: The horse ran ***fast*** enough to win the race.
WRONG: The architect worked ***hardly*** to finish his drawings by the next day.
RIGHT: The architect worked ***hard*** to finish his drawings by the next day.

ADVERBIAL CLAUSES

নীচে সবচেয়ে গুরুত্বপূর্ণ ছয় রকমের adverbial clause এর বর্ণনা দেয়া হলো। (Be especially careful with the verbs in adverbial clauses of time).

(1) Reason or Purpose
The soccer game was called of because the weather was bad.
Since most students go out on Saturday, nights, the dormitories are usually quiet then.
I carried some extra money with me so that I wouldn't be short of cash.

(2) Result
I found the house dark, so I turned on a few lights.
The coffee was so strong that the guests had trouble drinking it.
It was such an informative lecture that many of the students wanted to tape it.

(3) Time
When I visited Nashville, I toured the famous Parthenon.
I will wait at home until Mike calls. (not until Mike will call.)

(express future action by using only the simple present tense of the verb after words such as when, before, after, as soon as, whenever, until.)

When I visit. Nashville, I will tour the famous Parthenon.
Before I lock the doors, I will make certain that all of the lights have been turned off.
He talked about his travels to Europe whenever he visited his relatives in New York.

(4) Place
Wherever he walked, people stared at him in amazement.
Please leave the key where it belongs.

(5) Opposition (Contrast)
Although he had studied diligently for several months, he was unable to pass the examination.
He dressed poorly and drove an old car despite the fact that he had recently inherited three million dollars.

(6) Comparison
The food is better in the cafeteria today than it was yesterday.
I don't swim as well as she does.

WRONG: Unless Terry ***will pass*** his chemistry course, he won't graduate this semester.
RIGHT: Unless Terry ***passes*** his chemistry course, he won't graduate this semester.
WRONG: ***Although*** it was raining, Anita refused to take her swimming lesson.
RIGHT: ***Because*** it was raining, Anita refused to take her swimming lesson.
WRONG: Vincent will wait on the corner until the bus ***will come***.
RIGHT: Vincent will wait on the corner until the bus ***comes***.
WRONG: We will continue the game after the rain ***will stop***.
RIGHT: We will continue the game after the rain ***stops***.
WRONG: He carefully taped the chemistry lecture so that he ***can*** listen to it again.
RIGHT: He carefully taped the chemistry lecture so that he ***could*** listen to it again.
WRONG: As soon as he ***will get*** his check, he can buy the books he needs.
RIGHT: As soon as he ***gets*** his check, he can buy the books he needs.
WRONG: Police officers stop citizens when they ***will drive*** too fast.
RIGHT: Police officers stop citizens when they ***drive*** too fast.
WRONG: Before you go to bed, ***you will turn off*** the lights.
RIGHT: Before you go to bed, ***turn off*** the lights.
WRONG: If anyone ***will have*** a question, I'll be happy to answer it.
RIGHT: If anyone ***has*** a question, I'll be happy to answer it.

SUBJECT-VERB AGREEMENT

Sentence এর subject plural হলে verb plural এবং subject singular হলে verb I singular হবে । A verb must agree in number with its subject. Keep the following rules in mind when making certain that subjects and verbs agree:

(1) A ***prepositional phrase*** that comes between a subject and a verb does not affect the verb form.

(2) Some ***indefinite pronouns*** are always singular and therefore require singular verbs. The ones that are most likely to be used incorrectly with a plural verb include ***one, each, everyone, either***, and ***neither.***

(3) Two or more subjects joined by ***"and"*** usually require a plural verb.

(4) When the conjunctions ***"or"*** and ***"nor"*** and the pairs of conjunctions ***"either . . . or," "neither . . . nor,"*** and ***"not only . . . but also"*** are used to join subjects, the verb agrees in number with the part of the ***subject nearest the verb.***

(5) When normal word order (subject-verb) is inverted (verb-subject) either by simply placing the subject after the verb or by beginning the sentence with "***there***," the verb agrees in number with the true subject following the verb. Remember, however, that a verb does not agree with its complement or object.

(6) ***Collective nouns*** (army, audience, committee, etc.) usually take singular verbs, but require a plural verb when the collective noun refers to the members of the group and not to the group as a unit.

(7) Expressions referring to ***quantity or extent*** (miles, liters, pounds, etc.) take singular verbs when the amount is considered as a unit and plural verbs when the amount is considered as a number of individual units.

(8) "Number" may be singular of plural. ***The number*** refers to the total sum and takes a singular verb; ***a number*** refers to the individual units and takes a plural verb.

(9) Words ending in "***-ics***" (mathematics, acoustic, athletics, etc.) take a singular verb when they refer to a science, art, or body of knowledge; they take a plural verb when they refer to physical activities or qualities.

(10)The verb in clauses that begin "***one of*** _____ (who, which, or that)" is plural.

Examples:

WRONG: The man, as well as his wife and children, ***were*** injured in the accident.
RIGHT: The man, as well as his wife and children, ***was*** injured in the accident.
WRONG: One of the students in the class ***are*** absent today.
RIGHT: One of the students in the class ***is*** absent today.
WRONG: A crate of apples and oranges ***have*** been delivered to our doorstep.
RIGHT: A crate of apples and oranges ***has*** been delivered to our doorstep.
WRONG: His grasp of many areas of radio and television technology ***make*** it easy for him to find a job.
RIGHT: His grasp of many areas of radio and television technology ***makes*** it easy for him to find a job.
WRONG: Each man and each woman ***have*** to consider how to react to such an emergency.
RIGHT: Each man and each woman ***has*** to consider how to react to such an emergency.
WRONG: Every one of the employees ***are*** angry about the new contract.
RIGHT: Every one of the employees ***is*** angry about the new contract.
WRONG: The man and his assistant ***is*** pleased with the new office.
RIGHT: The man and his assistant ***are*** pleased with the new office.
WRONG: My friend and teacher ***are*** my mother.
RIGHT: My friend and teacher ***is*** my mother.
WRONG: Either the students or the teacher ***have*** made a mistake.
RIGHT: Either the students or the teacher ***has*** made a mistake.
WRONG: The parent or the children ***inherits*** the estate.
RIGHT: The parent or the children ***inherit*** the estate.
WRONG: Buried under the floorboards ***are*** the murdered man.
RIGHT: Buried under the floorboards ***is*** the murdered man.
WRONG: There ***is*** at least fifteen angry demonstrator outside.
RIGHT: There ***are*** at least fifteen angry demonstrators outside.
WRONG: The best time to take a nap ***are*** the two hours after lunch.
RIGHT: The best time to take a nap ***is*** the two hours after lunch.

WRONG: The jury ***agree*** on the verdict.
RIGHT: The jury ***agrees*** on the verdict.
WRONG: The jury ***disagrees*** on the verdict.
RIGHT: The jury ***disagree*** on the verdict.
WRONG: Ten miles ***are*** not far to go for a delicious meal.
RIGHT: Ten miles ***is*** not far to go for a delicious meal.
WRONG: Thirty dollars ***are*** too much to pay for that purse.

RIGHT: Thirty dollars ***is*** too much to pay for that purse.
WRONG: A number of students ***falls*** every test.
RIGHT: A number of students ***fall*** every test.
WRONG: The number of students who pass ***are*** increasing.
RIGHT: The number of students who pass ***is*** increasing.
WRONG: Economics, my major, ***are*** difficult.
RIGHT: Economics, my major, ***is*** difficult
WRONG: The acoustics of the building ***is*** good.
RIGHT: The acoustics of the building ***are*** good.
WRONG: One of the men who ***is*** being considered for the job is from this university.
RIGHT: One of the men who ***are*** being considered for the job is from this university.

AGREEMENT OF PRONOUN AND ANTECEDENT

Antecedent of pronoun বলতে বাক্যে ব্যবহৃত যে noun টিকে ঐ pronoun টি নির্দেশ করেছে, তাকে বোঝায়। এই noun টিই প্রকৃতপক্ষে pronoun এর person, number, এবং gender নির্ণয় করে। Study the rules given in the section on Agreement of Subject and Verb. These rules are also important for pronoun-antecedent agreement. In short, the pronoun must be singular if its antecedent is singular; the pronoun must be plural if its antecedent is plural.

WRONG: Neither of the two women wants ***their*** office renovated.
RIGHT: Neither of the two women wants ***her*** office renovated.
WRONG: I always give each of my students the attention ***they need***.
RIGHT: I always give each of my students the attention ***he needs***.
WRONG: He is one of those speakers who make ***his*** ideas perfectly clear.
RIGHT: He is one of those speakers who make ***their*** ideas perfectly clear.
WRONG: No one would wish to lose all of ***their*** money in the stock market.
RIGHT: No one would wish to lose all of ***his*** money in the stock market.
WRONG: Neither the members of the committee nor the chairman submitted ***their*** reports on time.
RIGHT: Neither the members of the committee nor the chairman submitted ***his*** reports on time.
WRONG: My insurance company has recently increased ***their*** premiums on liability policies.
RIGHT: My insurance company has recently increased ***its*** premiums on liability policies.
WRONG: One can find a great deal of information on world religions if ***they go*** to the library.
RIGHT: One can find a great deal of information on world religions if ***he goes*** to the library.
WRONG: A parent should never allow ***themselves*** to neglect ***their*** children.
RIGHT: A parent should never allow ***himself*** to neglect ***his*** children.
WRONG: The state of Texas has changed ***their*** laws on adoption.
RIGHT: The state of Texas has changed ***its*** laws on adoption.
WRONG: If anyone has a question, I'll see ***them*** after class.
RIGHT: If anyone has a question, I'll see ***him*** after class.
WRONG: Which student forgot to sign ***their*** name in the proper place?
RIGHT: Which student forgot to sign ***his*** name in the proper place?
WRONG: In inflationary times a person ought to spend ***their*** money wisely.
RIGHT: In inflationary times a person ought to spend ***his*** money wisely.
WRONG: A baby tiger lives with its mother for two years, but at the age of seven months ***they*** can kill for ***themselves***.
RIGHT: A baby tiger lives with its mother for two years, but at the age of seven months ***it*** can kill for ***itself***.
WRONG: Neither the man nor the woman carried ***their*** luggage with ***them***.
RIGHT: Neither the man nor the woman carried ***her*** luggage with ***her***.
WRONG: A lawyer must deal honestly with ***their*** clients if ***they wish*** to maintain a good reputation.
RIGHT: A lawyer must deal honestly with ***his*** clients if ***he wishes*** to maintain a good reputation.
WRONG: Many people enjoy reading about the Netherlands and ***their*** people.
RIGHT: Many people enjoy reading about the Netherlands and ***its*** people.
WRONG: Any senior can rent ***their*** cap and gown for graduation from the bookstore.
RIGHT: Any senior can rent ***his*** cap and gown for graduation from the bookstore.

CASE OF PRONOUNS

Be especially careful to distinguish between the subjective case (I, you, he, she, it, we, they, who) and the objective case (me, you, him, her, it, us, them, whom.) Study the following rules:

(1) The subjective case of the pronoun must be used if the pronoun is the subject of a verb, an appositive of a subject or a predicate nominative, or a predicate nominative.
(2) The objective case of the pronoun must be used if the pronoun is a direct or indirect object, the object of a preposition, or an appositive of a direct object, indirect object, or object of a preposition.

WRONG:	Hasan and ***me*** took the last two seats
RIGHT:	Hasan and ***I*** took the last two seats
WRONG:	Poly is much more charming than ***her***.
RIGHT:	Poly is much more charming than ***she***.
WRONG:	We, you and ***me***, are responsible for sending out the newsletter.
RIGHT:	We , you and ***I***, are responsible for sending out the newsletter.
WRONG:	***Whom*** do you believe is to blame?
RIGHT:	***Who*** do you believe is to blame?
WRONG:	You may invite ***whoever*** you choose.
RIGHT:	You may invite ***whomever*** you choose.
WRONG:	It was ***them*** who participated in the strike.
RIGHT:	It was ***they*** who participated in the strike.
WRONG:	I gave the keys to them – Susan and ***she***.
RIGHT:	I gave the keys to them – Susan and ***her***.
WRONG:	Let you and ***I*** decide who caused the accident.
RIGHT:	Let you and ***me*** decide who caused the accident.
WRONG:	People like him and ***she*** should be punished.
RIGHT:	People like him and ***her*** should be punished
WRONG:	Everyone but Joy and ***he*** accepted the player's excuse for being late.
RIGHT:	Everyone but Joy and ***him*** accepted the player's excuse for being late.
WRONG:	Between you and ***I***, the new proposal seems to be poorly written.
RIGHT:	Between you and ***me***, the new proposal seems to be poorly written.
WRONG:	Carole, unlike ***they***, understood the mathematical equation.
RIGHT:	Carole, unlike ***them***, understood the mathematical equation.
WRONG:	The chairman refused to acknowledge either John or ***I***.
RIGHT:	The chairman refused to acknowledge either John or ***me***.
WRONG:	Be sure to speak to my husband or ***I*** about your suggestion.
RIGHT:	Be sure to speak to my husband or ***me*** about your suggestion.
WRONG:	Please remind ***whomever*** comes in first to open the windows.
RIGHT:	Please remind ***whoever*** comes in first to open the windows.
WRONG:	***Us*** teachers are accustomed to spending hours preparing classes.
RIGHT:	***We*** teachers are accustomed to spending hours preparing classes.

COMMA SPLICES AND RUN-TOGETHER SENTENCES

Comma splices এবং run-together sentences are খুবই মারাত্মক দুটি ভুল। নীচের examples গুলো লক্ষ্য করুনঃ

(1) Marla rode the horse for several hours then she walked him around the ring. (run-together sentence)
(2) The test was difficult, he couldn't pass it. (comma splice)
(3) They had a flat tire on the way to the airport they arrived on time. (run-together sentence)
(4) He had checked the yard for footprints, he entered the den to question the family members. (comma splice)

উপরের প্রত্যেকটি sentence ই ভুল। চারটি basic পদ্ধতিতে comma splices (two independent clauses connected by a comma) এবং run-together sentences (two independent clauses without any connection) correction করা যায়। নিচে এই চারটি পদ্ধতি আলোচনা করা হল।

(১) Separate the two independent clauses with a period. (পূর্ণচিহ্ন)।

Example: Marla rode the horse for several hours. Then she walked him around the ring.

(2) Connect the two independent clauses by a semicolon if they are closely related. Or use a ***transitional connective*** (however, thus, therefore, etc.) to show the relationship between the two clauses.

Example: The test was difficult; as a result, he couldn't pass it.
The test was difficult; he couldn't pass it.

(3) Place a ***coordinating conjunction*** (and, but, for, or, nor, yet, or so) after the comma.

Example: They had a flat tire on the way to the airport, but they arrived on time.

(4) Make one of the clauses into a dependent clause. Use a subordinating conjunction, such as when, although, because, since, if, after, etc. or a relative pronoun to introduce the dependent clause.

Example: After he had checked the yard for footprints, he entered the den to question the family members.

WRONG: The children were tired, their mother put them to bed.
RIGHT: The children were tired, ***so*** their mother put them to bed.
or
Since the children were tired, their mother put them to bed.

WRONG: The spider is an insect, it spins a web.
RIGHT: The spider is an insect ***which*** spins a web.

WRONG: Greenland is a large island few people live there.
RIGHT: Greenland is a large island, ***but*** few people live there.
or
Although Greenland is a large island, few people live there.
or
Greenland is a large island; ***however,*** few people live there.

WRONG: The Vikings ate fish they drank ale.
RIGHT: The Vikings ate fish; they drank ale.
or
The Vikings ate fish ***and*** drank ale.

WRONG: George Washington Carver was a slave, he became a famous man.
RIGHT: George Washington Carver was a slave ***who*** became a famous man.

WRONG: Vesuvius is a famous volcano, it is located near Naples, Italy.
RIGHT: Vesuvius is a famous volcano ***which*** is located near Naples, Italy.

WRONG: Many snakes are poisonous people avoid them.
RIGHT: Many snakes are poisonous; ***thus***, people avoid them.
or
People avoid snakes ***because*** many of them are poisonous.

WRONG: John F. Kennedy was a well-known person he established the Peace Corps.
RIGHT: John F. Kennedy, ***who*** established the Peace Corps, was a well-known person.
or
John F. Kennedy was a well-known person ***who*** established the Peace Corps.

WRONG: That boy speaks German fluently he knows English too.
RIGHT: That boy speaks German fluently; ***moreover,*** he knows English.
or
That boy speaks German fluently, ***and*** he knows English too.
or
That boy not only speaks German fluently ***but also*** knows English.

COMPARISON

অধিকাংশ adjectives এবং adverb কে compare করা হয় –er বা –est যোগ করে আমরা শুরুতে more or most ব্যবহার করে। Most short modifiers are compared by adding –er or est to the positive form. In general, more and most are used before "long" adjectives and adverbs (adjectives and adverbs of more than two syllables).

List 1. Some adjectives and adverbs that are compared regularly

POSITIVE	COMPARATIVE	SUPERLATIVE
lazy	lazier	the laziest
tall	taller	the tallest
cheap	cheaper	the cheapest
expensive	more expensive	the most expensive
intelligent	more intelligent	the most intelligent
quickly	more quickly	the most quickly
easily	more easily	the most easily
useful	more useful	the most useful
common	more common	the most common

List 2. Some adjectives and adverbs that are compared irregularly

POSITIVE	COMPARATIVE	SUPERLATIVE
bad, badly	worse	the worst
far	farther / further	the farthest (distance) / the furthest
good, well	better	the best
little	less	the least
many, much	more	the most

WRONG: This shirt is more cheaper than that one.
RIGHT: This shirt is ***cheaper*** than that one.
WRONG: The Thai student speaks English ***as fluent as*** the Frenchman.
RIGHT: The Thai student speaks English ***as fluently*** as the Frenchman.
WRONG: My information is better than ***their.***
RIGHT: My information is better than ***theirs.***
WRONG: She looks a great deal taller ***as*** he.
RIGHT: She looks a great deal taller ***than*** he.
WRONG: I ran much ***further*** than the other contestants.
RIGHT: I ran much ***farther*** than the other contestants.
WRONG: I hope that you drive more ***carefuler*** than he does.
RIGHT: I hope that you drive more ***carefully*** than he does.
WRONG: Was my composition the ***most longest*** that you read?
RIGHT: Was my composition the ***longest*** that you read?
WRONG: Tokyo is ***larger*** city than New York.
RIGHT: Tokyo is ***a larger*** city than New York.
WRONG: He made few mistakes ***as*** I.
RIGHT: He made ***as*** few mistakes ***as*** I.
WRONG: Your pronunciation is the ***worse*** that I have ever heard.
RIGHT: Your pronunciation is the ***worst*** that I have ever heard.
WRONG: He usually does as ***less*** work as he can.
RIGHT: He usually does as ***little*** work as he can.

Additional notes on comparison:

(1) Use the comparative degree when only two people or things are compared.

(2) Use 'any other' rather than 'any' when comparing people or things of the same type of class.

(3) Be sure to make your comparisons logical.

WRONG: He is the ***most*** successful of the two businessmen.
RIGHT: He is the ***more*** successful of the two businessmen.
WRONG: Of the twins, Susan was the ***most*** talkative.
RIGHT: Of the twins, Susan was the ***more*** talkative.
WRONG: I looked at the two games and then chose the ***easiest*** one.
RIGHT: I looked at the two games and then chose the ***easier*** one.
WRONG: Soccer is more popular than ***any*** sport on our campus.
RIGHT: Soccer is more popular than ***any other*** sport on our campus.
WRONG: Calculus 102 is harder than ***any*** course in the mathematics department.
RIGHT: Calculus 102 is harder than ***any other*** course in the mathematics department.
WRONG: Are Kennedy's children more famous than ***Nixon***?
RIGHT: Are Kennedy's children more famous than ***Nixon's***?
WRONG: Her skin is as soft as a ***baby***.
RIGHT: Her skin is as soft as a ***baby's***.
WRONG: I like animals more than most adults.
RIGHT: I like animals more than most adults ***do***.

CONDITIONAL SENTENCES

Basic তিন ধরণের conditional sentence দেখা যায়।

(1) You will (might) get sick if you eat too much. This sentence means that something will occur if a certain condition is fulfilled. (future-probable)

(2) You would (could, might) get sick if you ate too much. This sentence means that something is unlikely to occur. (present-unreal)

(3) You would have (could have, might have) gotten sick if you had eaten too much. This sentence means that something did not occur because a certain condition was not fulfilled. (past-unreal)

Remember the following important points in writing conditional sentences:

(1) Do not use will, would or would have in the ***if*** clause.

(2) Use the subjunctive form 'were' instead of 'was' in the ***if*** clause.

(3) Unless means "if not."

WRONG: If you study hard, you pass the next test.
RIGHT: If you study hard, you ***will*** pass the next test.
WRONG: You might have enjoyed yourself if you ***would have*** gone with us.
RIGHT: You might have enjoyed yourself if you ***had*** gone with us.
WRONG: If I lived during the seventeenth century, I could have known Sir Isaac Newton.
RIGHT: If I ***had*** lived during the seventeenth century, I could have known Sir Isaac Newton.
WRONG: The woman could explain these sentences if she ***was*** a teacher.
RIGHT: The woman could explain these sentences if she ***were*** a teacher.
WRONG: If my friends ***would have*** a car, they would certainly pick me up.
RIGHT: If my friends ***had*** a car, they would certainly pick me up.
WRONG: He ***could*** use the machine unless it is broken.

RIGHT: He ***can*** use the machine unless it is broken.
WRONG: If you ***will*** need help, I'll be happy to help you.
RIGHT: If you need help, I'll be happy to help you.
WRONG: He ***didn't understand*** you unless you had spoken slowly.
RIGHT: He ***wouldn't have understood*** you unless you had spoken slowly.
WRONG: If you ***would have*** called, I would have gone out with you.
RIGHT: If you ***had*** called, I would have gone out with you.
WRONG: Plants ***don't*** grow if the sun didn't shine.
RIGHT: Plants ***wouldn't*** grow if the sun didn't shine.
WRONG: The dog will bite you if you ***will*** enter the gate.
RIGHT: The dog will bite you if you enter the gate.
WRONG: If dinner ***was*** ready, I'd eat now.
RIGHT: If dinner ***were*** ready, I'd eat now.
WRONG: I wouldn't have paid the money unless I ***would have*** owed it.
RIGHT: I wouldn't have paid the money unless I ***had*** owed it.
WRONG: He ***doesn't*** change his mind unless he were wrong.
RIGHT: He ***wouldn't*** change his mind unless he were wrong.

Additional notes on conditional sentence

(1) When the agreement of another person is needed or requested, will is used after if.

Example: If you will be quiet, I'll try to explain. (If you agree to be quiet, I'll try to explain).
Example: I can help you if you will wait a minute. (I can help you if you agree to wait a minute).
Example: If you will play the piano, I'll sing. (If you agree to play the piano, I'll sing):
(2) In addition to if, some other conjunctions are often used in conditional sentences.

Example: He acts ***as if*** he were rich. (But he really isn't rich.)
Example: ***As long as*** it doesn't rain, we'll have the picnic. (As long as means "if.")
Example: He will pay the rent ***provided that*** he gets his check. (Provided that means "if.")
Example: ***Supposing that*** you were a lawyer, would you give me some legal advice?
(Supposing that means "if.")
Example: She looks ***as though*** she is ill. (She might be ill.)
Example: ***In the event that*** it had rained, the game would have been postponed.
(In the event that means "if.")
Example: If ***only*** I had known you were coming, I would have prepared lunch.
(The word only is used for emphasis.)
(3) In past-unreal conditional sentences, or in present-unreal conditional sentences which contain the verb were, the conjunction if is sometimes omitted.
Example: Had she had time, she probably would have finished the letter. (Had she had time means "if she
had had time.")

Example: Had you failed the exam, you might not have passed the course. (Had you failed means "if you had failed.")
Example: Were he a counselor, he could give me some good advice. (Were he a counselor means "if he were a counselor.")
Example: Were the speech intelligible, I might understand it. (Were the speech intelligible means "if the speech were intelligible.")

MISPLACED MODIFIERS

একটি বাক্যের related parts গুলোকে আলাদা করলে (কথা দিয়ে) এই সমস্যাটি প্রায়ই দেখা দেয়। নিচের example গুলো লক্ষ্য করুন।

Example: On arriving at the picnic, the moon was high in the sky. Moon নিশ্চয়ই picnic এ আসেনি, অর্থাৎ এখন sentence টি ঠিক করার জন্য একটি noun দরকার, যেটি ২য় অংশের শুরুতে (কথার পরে) থাকবে। On arriving at the picnic, the group (the campers, we, etc.) found the moon high in the sky.

WRONG: When in grammar school, his teachers taught him to read.
RIGHT: When in grammar school, ***he*** was taught to read (by his teachers.)
WRONG: Discovered many years ago, we find ***uranium*** a useful metal.
RIGHT: Discovered many years ago, uranium is a useful metal.
WRONG: To dance well, practice is needed.
RIGHT: To dance well, ***one*** needs practice.
WRONG: Watching the slides carefully, many familiar scenes appeared.
RIGHT: Watching the slides carefully, ***we*** (the girls, they, etc.) saw many familiar scenes.
WRONG: Hurrying to class, an accident happened in my car.
RIGHT: Hurrying to class in my car, ***I*** had an accident.
WRONG: Having traveled at a high speed, a ticket was issued to the motorist.
RIGHT: Having traveled at a high speed, ***the motorist*** was issued a ticket
WRONG: After considering the plan for several days, it was adopted.
RIGHT: After considering the plan for several days, ***we*** (the committee, the representatives, etc.) adopted it.
WRONG: With a great deal of effort, his courses were passed.
RIGHT: With a great deal of effort, ***he*** passed his courses.
WRONG: When sick, see a doctor at once.
RIGHT: When sick, ***you*** should see a doctor at once.
WRONG: While cooking dinner, her finger was burned badly.
RIGHT: While cooking dinner, ***she*** burned her finger badly.
WRONG: If not eaten, ***you*** should throw away the dessert.
RIGHT: If not eaten, ***the dessert*** should be thrown away.
WRONG: By looking in the telephone book, his number can be found.
RIGHT: By looking in the telephone book, ***you*** (she, I, etc.) can find his number.
WRONG: Shopping in the department store, a pretty blouse came to my attention.
RIGHT: Shopping in the department store, ***I*** noticed a pretty blouse.

GERUNDS AND INFINITIVES

Gerunds আর infinitives হচ্ছে verb forms যেগুলো verb এর মত কাজ করে। A gerund is the –ing form of a verb that functions as a noun (going, wearing, making, etc.). An infinitive is a verb introduced by to which may be used as a noun, an adjective, or an adverb (to go, to wear, to make, etc.).

List 1. Some common verbs followed by a gerund.

admit	consider	mind (negatives and questions)	risk
allow	delay	miss	stop (=cease)
appreciate	deny	practice	
avoid	dislike	put off (= postpone)	
can't help	enjoy	remember (= recall)	
can't stand	finish	resent	

WRONG: I will never consider ***to leave*** this job.
RIGHT: I will never consider ***leaving*** this job.
WRONG: Many people avoid ***to wear*** safety belts when they drive.
RIGHT: Many people avoid ***wearing*** safety belts when they drive.
WRONG: A busy person can't stand ***to wait*** in line.
RIGHT: A busy person can't stand ***waiting*** in line.

WRONG: Do you enjoy ***to be*** in the United States?
RIGHT: Do you enjoy ***being*** in the United States?
WRONG: Students must practice ***to use*** different words.
RIGHT: Students must practice ***using*** different words.
WRONG: Tani finished ***to iron*** his shirt a few minutes ago.
RIGHT: Tani finished ***ironing*** his shirt a few minutes ago.
WRONG: Would you please stop ***to talk*** so loudly?
RIGHT: Would you please stop ***talking*** so loudly?

List 2 Some common verbs followed by an infinitive.

agree	need
attempt	offer
decide	plan
demand	prepare
expect	pretend
happen	promise
hesitate	refuse
hope	remember (= not to forget)
intend	seem
learn	want
manage	wish
mean	

WRONG: Do you hope ***getting*** your degree by next year?
RIGHT: Do you hope ***to get*** your degree by next year?
WRONG: I hesitate ***saying*** what I mean.
RIGHT: I hesitate ***to say*** what I mean.
WRONG: Birds have to learn ***using*** their wings.
RIGHT: Birds have to learn ***to use*** their wings.
WRONG: Men of peace have attempted ***putting*** an end to war.
RIGHT: Men of peace have attempted ***to put*** an end to war.
WRONG: Can that student demand ***seeing*** his grades?
RIGHT: Can that student demand ***to see*** his grades?
WRONG: He surely expects ***paying*** all of his bills.
RIGHT: He surely expects ***to pay*** all of his bills.
WRONG: My father is planning ***changing*** jobs shortly.
RIGHT: My father is planning ***to change*** jobs shortly.
WRONG: Did the cook remember ***adding*** salt?
RIGHT: Did the cook remember ***to add*** salt?

List 3 Some common verbs followed by either a gerund or an infinitive with no change in meaning.

begin	love
continue	prefer
hate	start
like	

WRONG: Almost everyone loves ***have*** free time.
RIGHT: Almost everyone loves ***having*** free time.
or
Almost everyone loves ***to have*** free time.
WRONG: The homesick child started ***think*** about his family.
RIGHT: The homesick child started ***thinking*** about his family.
or
The homesick child started ***to think*** about his family.
WRONG: It should begin ***rain*** before midnight.

RIGHT: It should begin ***raining*** before midnight.
or
It should begin ***to rain*** before midnight.

List 4 Some common verb/preposition combinations followed by a gerund.

approve of	look forward to
argue about	insist on
complain about	keep on
concentrate on	object to
depend on	plan on
decide on	rely on
feel like	succeed in
forget about	think about
give up	worry about

WRONG: Don't worry about ***make*** a mistake
RIGHT: Don't worry about ***making*** a mistake
WRONG: Did Paul object to ***pick*** you up?
RIGHT: Did Paul object to ***picking*** you up?
WRONG: We're looking forward to ***visit*** our friends.
RIGHT: We're looking forward to ***visiting*** our friends.
WRONG: I haven't succeeded in ***find*** a job yet.
RIGHT: I haven't succeeded in ***finding*** a job yet.
WRONG: The Browns are planning on ***to buy*** more furniture.
RIGHT: The Browns are planning on ***buying*** more furniture.
WRONG: Most teachers insist on ***to correct*** their students' mistakes.
RIGHT: Most teachers insist on ***correcting*** their students' mistakes.
WRONG: He rarely complains about ***to have*** to get up early.
RIGHT: He rarely complains about ***having*** to get up early.
WRONG: You must concentrate on ***to do*** your best.
RIGHT: You must concentrate on ***doing*** your best.

List 5 Some common adjectives followed by an infinitive.

afraid	eager	lucky	qualified
ashamed	foolish	pleased	ready
considerate	fortunate	prepared	sorry
disappointed	happy	proud	surprised

WRONG: I'm afraid ***drive*** alone at night.
RIGHT: I'm afraid ***to drive*** alone at night.
WRONG: The actress seems eager ***going*** on stage.
RIGHT: The actress seems eager ***to go*** on stage.
WRONG: Citizens ought to feel lucky ***be*** able to vote.
RIGHT: Citizens ought to feel lucky ***to be*** able to vote.
WRONG: Were you disappointed ***not*** win the race?
RIGHT: Were you disappointed ***not to*** win the race?
WRONG: The parents are proud ***having*** a healthy child.
RIGHT: The parents are proud ***to have*** a healthy child.
WRONG: He was not at all surprised ***hearing*** the news.
RIGHT: He was not at all surprised ***to hear*** the news.
WRONG: I'm looking for someone qualified ***typing*** a thesis.
RIGHT: I'm looking for someone qualified ***to type*** a thesis.

List 6 Some common adjective/preposition combinations followed by a gerund

accustomed to	interested in
afraid of	opposed to
ashamed of	proud of
bored with	responsible for
capable of	sorry about
disappointed in (with)	successful in
essential to	surprised at
excited about	tired from (=physically tired)
famous for	tired of (= mentally tired)
fond of	used to
hopeful of	worried about
intent on	

WRONG: Police soon get accustomed to ***arrest*** criminals.
RIGHT: Police soon get accustomed to ***arresting*** criminals.
WRONG: Are you capable of ***complete*** the work within an hour?
RIGHT: Are you capable of ***completing*** the work within an hour?
WRONG: Eli Whitney is famous for ***invent*** the cotton gin.
RIGHT: Eli Whitney is famous for ***inventing*** the cotton gin.
WRONG: The driver was intent on ***to pass*** the other car.
RIGHT: The driver was intent on ***passing*** the other car.
WRONG: The treasurer is responsible for ***to keep*** the books.
RIGHT: The treasurer is responsible for ***keeping*** the books.
WRONG: Ornothologists are interested in ***to learn*** about birds.
RIGHT: Ornothologists are interested in ***learning*** about birds.
WRONG: Minu Salk was successful in ***find*** a vaccine against polio.
RIGHT: Minu Salk was successful in ***finding*** a vaccine against polio.
WRONG: No one is opposed to ***reduce*** taxes.
RIGHT: No one is opposed to ***reducing*** taxes.

List 7 Some common verbs followed by the short infinitive (the infinitive without to).

let	make	have

WRONG: Would you let me ***to use*** your pencil?
RIGHT: Would you let me ***use*** your pencil?
WRONG: The company made the customer ***to pay*** his bill.
RIGHT: The company made the customer ***pay*** his bill.
WRONG: I had an electrician ***to repair*** the wiring.
RIGHT: I had an electrician ***repair*** the wiring.

Some verbs are followed by a present participle or by a short infinitive. (Although the present participle is an "-ing" form, it is not a true gerund. Therefore, it cannot have a possessive form before it.)

WRONG: I heard ***John's knocking*** at the door.
RIGHT: I heard ***John knocking*** at the door.
or
I heard ***John knock*** at the door.

WRONG: Have you ever seen a ***tiger's attacking*** a human being?
RIGHT: Have you ever seen a ***tiger attacking*** a human being?
or
Have you ever seen a ***tiger attack*** a human being?

WRONG: Did you notice the ***car's moving***?
RIGHT: Did you notice the ***car moving***?
or
Did you notice the ***car move***?

WRONG: Parents enjoy watching their ***children's playing***.
RIGHT: Parents enjoy watching their ***children playing***.
or
Parents enjoy watching their ***children play***.

Additional notes on gerunds and infinitives:

(1) The gerund is a noun. Therefore, it is logical to put a possessive form before it.

WRONG: Why do you dislike ***me*** cooking?
RIGHT: Why do you dislike ***my*** cooking?
WRONG: I can't remember the ***teacher announcing*** a test.
RIGHT: I can't remember the ***teacher's announcing*** a test.
WRONG: Will you forgive ***us leaving*** early?
RIGHT: Will you forgive ***our leaving*** early?
WRONG: ***Liton winning*** the race surprised everyone.
RIGHT: ***Liton's winning*** the race surprised everyone.
WRONG: The movie is not worth ***you paying*** four dollars to see.
RIGHT: The movie is not worth ***your paying*** four dollars to see.
WRONG: I won't insist on ***him wearing*** formal clothes.
RIGHT: I won't insist on ***his wearing*** formal clothes.
WRONG: The doctor has recommended my ***father having*** an operation.
RIGHT: The doctor has recommended my ***father's having*** an operation.
WRONG: Every ***citizen casting*** a vote is important
RIGHT: Every ***citizen's casting*** a vote is important.
WRONG: The boss excused his ***secretary failing*** to come to work.
RIGHT: The boss excused his ***secretary's failing*** to come to work.

(2) With the verb need, the gerund or the passive infinitive is often used.

WRONG: His hair needs ***cut***.
RIGHT: His hair needs ***cutting***.
or
His hair needs ***to be*** cut.
WRONG: Does the bed need ***to make***?
RIGHT: Does the bed need ***making***?
or
Does the bed need ***to be made***?
WRONG: My pencil needed ***to sharpen***.
RIGHT: My pencil needed ***sharpening***.
or
My pencil needed ***to be sharpened.***

SOME COMMON IRREGULAR VERBS

মনে রাখবেন যে have, has, or had এর সাথে verb এর যে form ব্যবহৃত হয়, তা হলো past participle. Past participle এর দ্বারা past perfect বা present perfect tense তৈরী হয়।

PRESENT	PAST	PAST PARTICIPLE
become	became	become
begin	began	begun
blow	blew	blown
break	broke	broken
choose	chose	chosen
come	came	come
do	did	done
drink	drank	drunk
drive	drove	driven

eat	ate	eaten
fall	fell	fallen
fly	flew	flown
forget	forgot	forgot(ten)
go	went	gone
give	gave	given
know	knew	known
ring	rang	rung
run	ran	run
see	saw	seen
sing	sang	sung
sink	sank	sunk
speak	spoke	spoken
steal	stole	stolen
swim	swam	swum
take	took	taken
tear	tore	torn
throw	threw	thrown
wear	wore	worn
write	wrote	written

WRONG: He shouldn't have been ***chose*** as secretary.
RIGHT: He shouldn't have been ***chosen*** as secretary.
WRONG: He ***swum*** across the river without any difficulty.
RIGHT: He ***swam*** across the river without any difficulty.
WRONG: The girl's arm was ***broke*** in the car accident.
RIGHT: The girl's arm was ***broken*** in the car accident.
WRONG: After he had ***ate*** dinner, he rested on the sofa.
RIGHT: After he had ***eaten*** dinner, he rested on the sofa.
WRONG: I have ***saw*** that move several times.
RIGHT: I have ***seen*** that movie several times.
WRONG: He had knocked at the door and ***rang*** the doorbell for ten minutes before someone answered.
RIGHT: He had knocked at the door and ***rung*** the doorbell for ten minutes before someone answered.
WRONG: Have you ever ***took*** pictures with this kind of camera?
RIGHT: Have you ever ***taken*** pictures with this kind of camera?
WRONG: The speaker has just ***began*** his talk.
RIGHT: The speaker has just ***begun*** his talk.
WRONG: Many people died when the boat ***sunk***.
RIGHT: Many people died when the boat ***sank***.
WRONG: He's already prepared and ***drank*** a cup of tea.
RIGHT: He's already prepared and ***drunk*** a cup of tea.
WRONG: Have you ever ***wrote*** a letter in green ink?
RIGHT: Have you ever ***written*** a letter in green ink?
WRONG: Had I ***drove*** eighty miles and hour, I would have been arrested.
RIGHT: Had I ***driven*** eighty miles an hour, I would have been arrested.
WRONG: I believe that someone has ***took*** my books.
RIGHT: I believe that someone has ***taken*** my books.
WRONG: He has made and ***broke*** promises to his friends all of his life.
RIGHT: He has made and ***broken*** promises to his friends all of his life.
WRONG: Her husband hasn't ***gave*** her a birthday present yet.
RIGHT: Her husband hasn't ***given*** her a birthday present yet.
WRONG: He ***come*** in at midnight last night.
RIGHT: He ***came*** in at midnight last night.
WRONG: Having ***spoke*** to the audience for an hour, the speaker left the auditorium.
RIGHT: Having ***spoken*** to the audience for an hour, the speaker left the auditorium.

MISPLACED CLAUSES, WORDS, AND PHRASES

Sentence এর meaning কে perfectly clear করতে হলে খেয়াল রাখতে হবে যেন ঐ sentence এর modifying element টি ঠিক জায়গায় বসানো হয়েছে। লক্ষ্য করুন:

WRONG: It ***only took*** two days to get there by train.
RIGHT: It ***took only*** two days to get there by train.
WRONG: He was hoping to ***by the end of the year find a job.***
RIGHT: He was hoping to ***find a job by the end of the year.***
WRONG: I ***nearly saw*** 100 bears at the zoo.
RIGHT: I ***saw nearly*** 100 bears at the zoo.
WRONG: To ***logically think*** in English is my goal.
RIGHT: To ***think logically*** in English is my goal.
WRONG: ***The tiger*** escaped from the cage ***which came from Africa.***
RIGHT: ***The tiger which came from Africa*** escaped from the cage.
WRONG: We ***almost have written*** twenty compositions this semester.
RIGHT: We ***have written almost*** twenty compositions this semester.
WRONG: ***The woman*** went to the dentist ***with a toothache.***
RIGHT: ***The woman with a toothache*** went to the dentist.
WRONG: He was asked to ***later*** sharpen his pencil.
RIGHT: He was asked to sharpen his pencil ***later.***
WRONG: I intend to after class ***go shopping.***
RIGHT: I intend to ***go shopping*** after class.
WRONG: The school children learned ***in 1942*** that Columbus had discovered America.
RIGHT: The school children learned that Columbus had discovered America ***in 1942.***
WRONG: The carpenter makes furniture for people ***of any size.***
RIGHT: The carpenter makes furniture ***of any size*** for people.
WRONG: ***Hiding in the bushes***, the policeman found the robber.
RIGHT: The policeman found the robber ***hiding in the bushes.***
WRONG: The vicuna has beautiful, silky hair ***which lives high in the mountains of Peru.***
RIGHT: The vicuna, ***which lives high in the mountains of Peru,*** has beautiful, silky hair.
WRONG: The mansion ***was constructed by a new company*** which the governor lives in.
RIGHT: The mansion which the governor lives in ***was constructed by a new company.***
WRONG: ***Jumping from branch to branch,*** I was fascinated by a squirrel.
RIGHT: I was fascinated by a squirrel ***jumping from branch to branch.***

OMISSIONS

এমন কোন word omit (remove) করবেন না যেটি sentence এর necessary part. Study the following points carefully:

(1) Be certain to include the correct article if one is needed.

WRONG: On the way to ***office***, Richard stopped to buy a morning paper.
RIGHT: On the way to ***the office***, Richard stopped to buy a morning paper.
WRONG: Lying on the beach were a towel, a red ball, and ***broken*** tennis racket.
RIGHT: Lying on the beach were a towel, a red ball, and ***a broken*** tennis racket.
WRONG: It was ***so pleasant day*** that we sat on the patio for hours.
RIGHT: It was ***so pleasant a day*** that we sat on the patio for hours.

(2) Do not omit necessary prepositions.

WRONG: He is both interested in and ***dedicated*** cancer research.
RIGHT: He is both interested in and ***dedicated to*** cancer research.
WRONG: The person I ***spoke*** was a native of Raceland, Louisiana.
RIGHT: The person I ***spoke to*** was a native of Raceland, Louisiana.
WRONG: The thing that I was most ***surprised*** was his attitude.
RIGHT: The thing that I was most ***surprised at*** was his attitude.

(3) Do not omit important verb parts.

WRONG: The glasses were washed and the ***silver*** polished.
RIGHT: The glasses were washed and the ***silver was*** polished.
WRONG: I wanted her to help me, but she must not have ***wanted.***
RIGHT: I wanted her to help me, but she must not have ***wanted to.***
WRONG: Laziness in people always ***has*** and always will be one of my pet peeves.
RIGHT: Laziness in people always ***has been*** and always will be one of my pet peeves.

(4) Do not omit that from a dependent clause if there is a possibility that the reader will misunderstand the sentence.

WRONG: We saw ***Alex***, if not warned, would drive off the highway and onto the shoulder.
RIGHT: We saw ***that Alex***, if not warned, would drive off the highway and onto the shoulder.
WRONG: It is believed, especially in the capital, ***the government*** is gaining strength.
RIGHT: It is believed, especially in the capital, ***that the government*** is gaining strength.

(5) Do not omit necessary words in comparisons.

WRONG: The traffic in New Orleans is heavier than Baton Rouge.
RIGHT: The traffic in New Orleans is heavier than ***that of*** Baton Rouge
or
The traffic in New Orleans is heavier than in Baton Rouge.
WRONG: Earl is ***as tall***, if not taller than, Wade.
RIGHT: Earl is ***as tall as***, if not taller than, Wade.
WRONG: Owning a house is more expensive today.
RIGHT: Owning a house is more expensive today ***than it was in the past.***
WRONG: Teaching young children is not so different from teenagers.
RIGHT: Teaching young children is not so different from ***teaching*** teenagers.

PARALLEL STRUCTURE

Parallel structure বলতে বোঝায় একই রকম grammatical structure যখন কোন sentence- এ series of action দেয়া থাকবে, তখন a noun with a noun, an infinitive with an infinitive, an active verb with an active verb, a preposition with a preposition, a clause with a clause, and an adjective with an adjective-এভাবে connect করতে হবে। লক্ষ্য করুনঃ

WRONG: The day is ***dark, with cloudy skies*** and ***has a high humidity.***
RIGHT: The day is ***dark, cloudy***, and ***humid.***
WRONG: As a teenager, she ***had babysat, working*** in a restaurant, and ***typing*** for her mother.
RIGHT: As a teenager, she ***had babysat, worked*** in a restaurant, and ***typed*** for her mother.
WRONG: The statesman died ***loved*** by his friends, ***feared*** by his enemies, and ***everyone respected him.***
RIGHT: The statesman died ***loved*** by his friends, ***feared*** by his enemies, and ***respected*** by everyone.
WRONG: I am studying the sources of educational theory and ***how educational theory has evolved.***
RIGHT: I am studying the sources and ***the evolution of educational theory.***
WRONG: I read Hegel ***for*** the profound ideas in his philosophy but ***not his style*** of writing.
RIGHT: I read Hegel ***for*** the profound ideas in his philosophy but ***not for his style*** of writing.
WRONG: In his hands he was holding ***a book*** and ***interesting*** magazine.
RIGHT: In his hands he was holding ***a book*** and ***an interesting*** magazine.
WRONG: He was not only sympathetic but also ***knew when to be considerate.***
RIGHT: He was not only sympathetic but also ***considerate.***

WRONG: Not only did he enjoy the movie but also the play.
RIGHT: He enjoyed not only the movie but also the play.
WRONG: He was successful both as ***a church architect*** and ***writing poetry***.
RIGHT: He was successful both as ***a church architect*** and ***a poet***.
WRONG: ***Playing*** tennis is more strenuous than ***to ride*** a bicycle.
RIGHT: ***Playing*** tennis is more strenuous than ***riding*** a bicycle.
WRONG: I was concerned about ***the price*** of the car and ***if it was comfortable.***
RIGHT: I was concerned about ***the price*** and ***the comfort*** of the car.
WRONG: Their homeland was cold and ***with many mountains.***
RIGHT: Their homeland was cold and ***mountainous***.
WRONG: Neither does he speak Spanish nor Helen.
RIGHT: Neither he nor Helen speaks Spanish.
WRONG: She wanted the ***roof repaired*** and ***to paint the fence***.
RIGHT: She wanted the ***roof repaired*** and ***the fence painted***.
WRONG: Poli decided ***to go to the university*** rather than ***a job***.
RIGHT: Poli decided ***to go to the university*** rather than ***to get a job***.
WRONG: Razu is a man ***of many ideas*** and ***who knows how to express them.***
RIGHT: Razu is a man ***who has many ideas*** and ***who knows how to express them.***
WRONG: He is a poor teacher but ***who treats*** his students fairly.
RIGHT: He is a poor teacher, but ***he treats*** his students fairly.
WRONG: For my birthday he gave me a watch ***and which*** I really like.
RIGHT: For my birthday he gave me a watch ***which*** I really like.
WRONG: The vicuna is a timid animal and which ***lives*** in Peru.
RIGHT: The vicuna is a timid animal which lives in Peru.
or
The vicuna is an animal ***which is timid*** and ***which lives in*** Peru.
WRONG: I learned ***that*** he was young, ***but he was***, nevertheless, ambitious.
RIGHT: I learned ***that*** he was young, ***but that he was***, nevertheless, ambitious.

PAST PERFECT TENSE

Past perfect tense দ্বারা পূর্বে ঘটে গেছে (particular moment এর আগে) এমন ঘটনাকে বোঝায়। এক্ষেত্রে দুটি past এর মধ্যে একটি simple এবং একটি perfect (যেটি আগে ঘটেছে) tense ব্যবহৃত হয়।

WRONG: They said that they ***didn't meet*** him before.
RIGHT: They said that they ***hadn't met*** him before.
WRONG: We heard that the president ***gave a speech*** on television.
RIGHT: We heard that the president ***had given a speech*** on television.
WRONG: I was surprised to learn that she ***was*** injured in an accident.
RIGHT: I was surprised to learn that she ***had been*** injured in an accident.
WRONG: The librarian wanted to know where I ***lost*** the book.
RIGHT: The librarian wanted to know where I ***had lost*** the book.
WRONG: We found out that our friend ***went*** to California.
RIGHT: We found out that our friend ***had gone*** to California.
WRONG: The robber wouldn't say where he ***spent*** all the money.
RIGHT: The robber wouldn't say where he ***had spent*** all the money.
WRONG: When I saw him later, he ***gained*** over fifty pounds.
RIGHT: When I saw him later , he ***had gained*** over fifty pounds.
WRONG: Mr. Masud ***just left*** when his wife called.
RIGHT: Mr. Masud ***had just left*** when his wife called.
WRONG: She was hurt to learn that her boyfriend ***forgot*** her birthday.
RIGHT: She was hurt to learn that her boyfriend ***had forgotten*** her birthday.
WRONG: He asked me what countries I ***visited***.

RIGHT: He asked me what countries I ***had visited***.
WRONG: I discovered that someone ***drank*** all the milk.
RIGHT: I discovered that someone ***had drunk*** all the milk.
WRONG: I saw that my wallet ***was*** stolen when I opened my purse.
RIGHT: I saw that my wallet ***had been*** stolen when I opened my purse.
WRONG: The clerk assured me that she ***told*** the manager about my complaint.
RIGHT: The clerk assured me that she ***had told*** the manager about my complaint.
WRONG: It already ***began*** to rain when we started for the beach.
RIGHT: It ***had*** already ***begun*** to rain when we started for the beach.
WRONG: The little girl asked what ***happened*** to her dog.
RIGHT: The little girl asked what ***had happened*** to her dog.
WRONG: The senator declared that he ***voted*** for the new amendment.
RIGHT: The senator declared that he ***had voted*** for the new amendment.

PERFECT INFINITIVES AND PERFECT PARTICIPLES

Perfect Infinitives and Perfect Participles তখনই use হয় যখন main verb এর action এর আগে ঘটনাটি ঘটে।

PRESENT INFINITIVE	PERFECT INFINITIVE	PRESENT PARTICIPLE	PERFECT PARTICIPLE
to be	to have been	being	having been
to do	to have done	doing	having done
to go	to have gone	going	having gone
to see	to have seen	seeing	having seen
to write	to have written	writing	having written

WRONG: I seem to ***leave*** my key in the car last night.
RIGHT: I seem to ***have left*** my key in the car last night.
WRONG: He would like to ***live*** during the eighteenth century.
RIGHT: He would like to ***have lived*** during the eighteenth century.
WRONG: ***Eating*** lunch, he took a nap.
RIGHT: ***Having eaten*** lunch, he took a nap.
WRONG: She is happy to ***meet*** Rumi when he was here.
RIGHT: She is happy to ***have met*** Rumi when he was here.
or
She ***was*** happy to meet Rumi when he was here.
WRONG: ***Driving*** for ten hours, we stopped to rest.
RIGHT: ***Having driven*** for ten hours, we stopped to rest.
WRONG: I would have been afraid to ***have touched*** the lion at the zoo yesterday.
RIGHT: I would have been afraid to ***touch*** the lion at the zoo yesterday.
WRONG: My mother would have liked to ***have been*** in Florida last week.
RIGHT: My mother would have liked to ***be*** in Florida last week.
or
My mother would ***like*** to ***have been*** in Florida last week.

PRESENT PERFECT TENSE

Present perfect tense হচ্ছে সবচেয়ে বেশি ব্যবহৃত একটি tense. এই tense present time এ ব্যবহৃত হয় এবং কখনোই নির্দিষ্ট সময় এর সাথে ব্যবহৃত হয় না। লক্ষ্য করুনঃ

WRONG: I ***have bought*** a new hat last weekend. (present perfect)
RIGHT: I ***bought*** a new hat last weekend. (past)
WRONG: We ***don't have*** a meeting since last month.
RIGHT: We ***haven't had*** a meeting since last month.
WRONG: Where ***is he*** all day?
RIGHT: Where ***has he been*** all day?

WRONG: They ***are waiting*** in the hall for half an hour.
RIGHT: They ***have been waiting*** in the hall for half an hour
WRONG: The architect ***has finished*** his plans a week ago.
RIGHT: The architect ***finished*** his plans a week ago.
WRONG: ***Have you written*** your composition last night?
RIGHT: ***Did you write*** your composition last night?
WRONG: I ***don't see*** Pushon since last Monday.
RIGHT: I ***haven't seen*** Pushon since last Monday.
WRONG: He's looking for a wife, but he **doesn't find** one yet.
RIGHT: He's looking for a wife, but he ***hasn't found*** one yet.
WRONG: The foreign student ***doesn't meet*** many Americans so far.
RIGHT: The foreign student ***hasn't meet*** many Americans so far.
WRONG: I ***am already speaking*** to her about that matter.
RIGHT: I ***have already spoken*** to her about that matter.
WRONG: What ***are you doing*** since yesterday?
RIGHT: What ***have you been doing*** since yesterday?
WRONG: They ***don't see*** a movie in a year.
RIGHT: They ***haven't seen*** a movie in a year.
WRONG: He ***likes*** me ever since we met.
RIGHT: He ***has liked*** me ever since we met.
WRONG: My wife ***has died*** over six months ago.
RIGHT: My wife ***died*** over six months ago.
WRONG: The girl ***is practicing*** the piano since early this morning.
RIGHT: The girl ***has been practicing*** the piano since early this morning.
WRONG: I still ***don't learn*** to speak English very well.
RIGHT: I still ***haven't learned*** to speak English very well.
WRONG: Shakespeare ***has written*** many dramas.
RIGHT: Shakespeare ***wrote*** many dramas.

REFERENCE OF PRONOUNS

Pronoun ব্যবহৃত হয় noun এর পরিবর্তে এবং একটি pronoun একটি নির্দিষ্ট শব্দ কে replace করে। ঐ noun টিকে উক্ত pronoun এর antecedent বলা হয়। খেয়াল রাখতে হবে যেন antecedent clear থাকে। মনে রাখুনঃ

(1) Do not use two nouns as possible antecedents.

(2) Do not use which, this, or that to refer to an entire idea.

(3) Do not use the personal pronouns you, they, them, or it unless they refer to a particular noun.

WRONG: Sally told Linda that ***she*** was overweight.
RIGHT: Sally told Linda, "You are overweight."
or
Sally told Linda, "I am overweight."

WRONG: Mr. Daniel always challenges everything I say, ***which*** unnerves me.
RIGHT: Mr. Daniel always challenges everything I say, a habit which unnerves me.
WRONG: Oswald assassinated President John Kennedy. ***This*** shocked the world.
RIGHT: Oswald assassinated President John Kennedy. This crime shocked the world.
WRONG: Mr. Young said that he would sell his farm at a very cheap price. ***It*** surprised all of the members of the Farm Bureau.
RIGHT: Mr. Young said that he would sell his farm at a very cheap price. This statement surprised all of the members of the Farm Bureau.
WRONG: In college you have to study more than ***you do*** in high school.
RIGHT: In college one has to study more than he does in high school.
WRONG: He is bad at tennis because he can't hit ***them*** across the net.
RIGHT: He is bad at tennis because he can't hit the balls across the net.
WRONG: When Karim was painting the garage, some of ***it*** spilled on his pants.
RIGHT: When Karim was painting the garage, some of the paint spilled on his pants.

WRONG: In Chicago ***they*** have snow during the winter.
RIGHT: In Chicago the people have snow during the winter.
WRONG: In the newspaper ***it*** said that a new tax law had been passed.
RIGHT: The newspaper reported that a new tax law had been passed.

লক্ষ্য করুন, wrong sentence Gi underlined pronoun গুলো কাকে বা কোন জিনিসকে refer করছে, তা স্পষ্ট নয়।

NOTE: It is used correctly in the following sentences:
(1) It is clear that the students understood the lesson.
(2) It was suggested that he keep his old textbooks.
(3) It is fifty miles to the next town.
(4) It was foggy almost all morning.
(5) It was the clerk who made the mistake.
(6) I think that it is time for us to begin.

RESTRICTIVE (IDENTIFYING) AND NON-RESTRICTIVE (NON-INDENTIFYING) ADJECTIVE CLAUSES

Study the following sentences with restrictive adjective clauses:

(1) A student who studies hard usually learns quickly.
that studies hard
(2) I want a car which is economical to drive.
that is economical
(3) Thomas Edison was the scientist who invented the electric light.
that invented the electric light.
(4) I have already finished the lesson which the teacher assigned.
that the teacher assigned.
(5) The man whom you recommended did an excellent job.
that you recommended

Study the following sentences with non-restrictive adjective clauses:
(1) John Morgan, who studies hard, usually learns quickly.
(2) I want a Toyota, which is economical to drive.
(3) Thomas Edison, who invented the electric light, was a scientist.
(4) I have already finished Lesson Two, which the teacher assigned.
(5) San Peters, whom you recommended, did an excellent job.

Remember the following important points about restrictive and non-restrictive adjective clauses:

(1) Restrictive adjective clauses identify the noun which they modify.
(2) Non-restrictive adjective clauses describe, but do not identify, the noun which they modify.
(3) The relative pronoun that cannot be used in non-restrictive adjective clauses.
(4) Commas are used to set off non-restrictive adjective clauses.

WRONG: Iowa, ***that*** lies in the north-central section of the United States, is between the Mississippi and Missouri rivers.
RIGHT: Iowa, ***which*** lies in the north-central section of the United States, is between the Mississippi and Missouri rivers.
WRONG: The chief city of Hungary is Budapest, to ***that*** great damage was done during World War II.

RIGHT: The chief city of Hungary is Budapest, to ***which*** great damage was done during World War II.

WRONG: The Iowa country was first visited in 1673 by Joliet and Marquette, ***that*** were French explorers.

RIGHT: The Iowa country was first visited in 1673 by Joliet and Marquette, ***who*** were French explorers.

WRONG: Some important discoveries about gravitation were made by Sir Isaac Newton, ***that*** was a seventeenth-century scientist.

RIGHT: Some important discoveries about gravitation were made by Sir Isaac Newton, ***who*** was a seventeenth-century scientist.

WRONG: The impala, ***that*** is one of the fastest and most graceful of antelopes, is found wild only in Africa.

RIGHT: The impala, ***which*** is one of the fastest and most graceful of antelopes, is found wild only in Africa.

WRONG: Most of the world's supply of dates comes from Iraq, ***that*** is rapidly becoming an important modern country.

RIGHT: Most of the world's supply of dates comes from Iraq, ***which*** is rapidly becoming an important modern country.

WRONG: Kentucky was the home of Abraham Lincoln, ***that*** was president during the Civil War.

RIGHT: Kentucky was the home of Abraham Lincoln, ***who*** was president during the Civil War.

SHIFT IN TENSE

বর্ণনামূলক লেখার ক্ষেত্রে আপনাকে verb এর tense এ সামঞ্জস্য রাখতে হবে। আপনি যদি একটি tense দিয়ে শুরু করেন, গ্রহনযোগ্য কারণ ছাড়া sentence এর মাঝখানে অন্য tense use করবেন না। লক্ষ্য করুনঃ

WRONG: After the bell rings, it ***was*** time to close the door.

RIGHT: After the bell rings, it ***is*** time to close the door.

WRONG: Everyone in class knew that the examination ***is*** going to include six chapters.

RIGHT: Everyone in class knew that the examination ***was*** going to include six chapter.

WRONG: When I spoke to him, he ***is*** just getting ready to leave.

RIGHT: When I spoke to him, he ***was*** just getting ready to leave.

WRONG: As soon as I finish biology, I ***take*** chemistry.

RIGHT: As soon as I finish biology, I ***will take*** chemistry.

WRONG: She once heard a record of his, but she ***never sees*** him in person.

RIGHT: She once heard a record of his, but she ***has never seen*** him in person.

WRONG: As the ship sank, he jumped overboard and ***tries*** to keep himself afloat.

RIGHT: As the ship sank, he jumped overboard and ***tried*** to keep himself afloat.

WRONG: He had a serious operation while he ***is*** in the hospital.

RIGHT: He had a serious operation while he ***was*** in the hospital.

WRONG: I will answer the phone if it ***rang***.

RIGHT: I will answer the phone if it ***rings***.

WRONG: Like almost all teachers, she was well prepared and never ***comes*** to class late.

RIGHT: Like almost all teachers, she was well prepared and never ***came*** to class late.

WRONG: When we reached the station, it ***is*** well after midnight.

RIGHT: When we reached the station, it ***was*** well after midnight.

WRONG: When you got home, ***do*** you notice what time it was?

RIGHT: When you got home, ***did*** you notice what time it was?

WRONG: That essay is very timely even though it ***is*** written two hundred years ago.

RIGHT: That essay is very timely even though it ***was*** written two hundred years ago.

WRONG: If you had told her that she was wrong, she ***would be*** angry.

RIGHT: If you had told her that she was wrong, she ***would have been*** angry.

WRONG: When Napoleon ***loses*** the Battle of Waterloo, he was exiled to the island of St, Helena.

RIGHT: When Napoleon ***lost*** the Battle of Waterloo, he was exiled to the island of St. Helena.

SIMPLE PRESENT AND PRESENT CONTINUOUS TENSES

Simple present tense সাধারণত permanent বা habitual (অভ্যাসজনিত) action এর জন্য ব্যবহৃত হয়। Present continuous tense, অথবা real present সেসব action কে বোঝায় যেগুলো এই মুহূর্তে ঘটছে (at the moment of speaking).

WRONG: I see that you ***wear*** your new coat today.
RIGHT: I see that you ***are wearing*** your new coat today.
WRONG: The sun ***is giving*** us light.
RIGHT: The sun ***gives*** us light.
WRONG: He ***sleeps*** because he worked very hard this morning.
RIGHT: He ***is sleeping*** because he worked very hard this morning.
WRONG: When I go to work, I generally ***am meeting*** many school children.
RIGHT: When I go to work., I generally ***meet*** many school children.
WRONG: I ***listen***, but I cannot hear a sound.
RIGHT: I ***am listening***, but I cannot hear a sound.
WRONG: He needs to wear warm clothes today because it ***freezes***
RIGHT: He needs to wear warm clothes today because it ***is freezing***.
WRONG: How often ***are you studying*** in the library?
RIGHT: How often ***do you study*** in the library?
WRONG: That man who ***talks*** to the policeman just got a ticket.
RIGHT: That man who ***is talking*** to the policeman just got a ticket.
WRONG: Policemen ***are issuing*** ticks to speeders.
RIGHT: Policemen ***issue*** tickets to speeders.
WRONG: Look! That woman *runs* to catch the bus .
RIGHT: Look! That woman ***is running*** to catch the bus.
WRONG: They ***are sitting*** in class everyday for several hours.
RIGHT: They ***sit*** in class everyday for several hours.
WRONG: When the student wants to ask a question, he ***is raising*** his hand.
RIGHT: When the student wants to ask a question, he ***raises*** his hand.
WRONG: Why ***do you wash*** your car this morning?
RIGHT: Why ***are you washing*** your car this morning?
WRONG: Bad students usually ***are not working*** hard.
RIGHT: Bad students usually ***do not work*** hard.
WRONG: I almost always think in English, but today I ***think*** in my native language.
RIGHT: I almost always think in English, but today I ***am thinking*** in my native language.

UNINFLECTED VERBS

The uninflected form of the verb (the simple infinitive) in a dependent noun clause is used after some particular verbs or expressions. Study the list of verbs and expressions below which are often followed by a noun clause with an uninflected verb. নিম্নোক্ত verbs এবং expressions গুলোর পরে সাধারণত simple infinitive ব্যবহৃত হয়।

ask	require
advise	request
command	suggest
insist	urge
order	essential that
prefer	important that
propose	necessary that
recommend	urgent that

WRONG: The director advises that we ***are*** on time for the next meeting.
RIGHT: The director advises that we ***be*** on time for the next meeting.
WRONG: The counselor has insisted that Tommy ***takes*** time to relax.
RIGHT: The counselor has insisted that Tommy ***take*** time to relax.
WRONG: Did the general urge that his troops ***fought***?

RIGHT: Did the general urge that his troops ***fight***?
WRONG: My father suggested that I ***didn't*** buy a used car.
RIGHT: My father suggested that I ***not*** buy a used car.
WRONG: It is essential that each camper ***brings*** his own equipment.
RIGHT: It is essential that each camper ***bring*** his own equipment.
WRONG: Is it important that she ***finishes*** the typing today?
RIGHT: Is it important that she ***finish*** the typing today?
WRONG: Was it recommended that the young woman ***didn't*** drive after dark?
RIGHT: Was it recommended that the young woman ***not*** drive after dark?
WRONG: It seemed urgent that the meeting ***began*** immediately.
RIGHT: It seemed urgent that the meeting ***begin*** immediately.
WRONG: Your request that the test ***is*** delayed has been denied.
RIGHT: Your request that the test ***be*** delayed has been denied.

WISH CLAUSES

Notice the meaning of the following sentences with the verb wish:

(1) I wish that he were here today.
(But he isn't here today.)

(2) The boys wish that they had won the game.
(but they didn't win game)

(3) She wishes that he could understand Japanese.
(But she can't understand Japanese.)

(4) Farmers wish it would rain soon.
(Farmers want it to rain soon.)

(5) I wish you would eat your food.
(But you won't eat your food. You refuse to eat your food.)

Wish verb ব্যবহার করে sentence লেখার সময় নিচের important point গুলো মনে রাখতে হবে।

(1) In a wish clause, the verb is never in the present tense. Therefore, you can never use **will** or **can** in the wish clause.

(2) The word **that** is often omitted in the wish clause.

(3) Instead of **was**, use **were** in the wish clause.

(4) Don't use **would have** in the wish clause. Use **had**.

WRONG: I wish you ***would have*** called me yesterday.
RIGHT: I wish you ***had*** called me yesterday.
WRONG: The student wishes that he ***took*** English in high school.
RIGHT: The student wishes that he ***had taken*** English in high school.
WRONG: I wish it ***rains*** more in this area during the spring.
RIGHT: I wish it ***rained*** more in this area during the spring.
WRONG: Don't you wish you ***can*** dance better?
RIGHT: Don't you wish you ***could*** dance better?
WRONG: I wish I ***knew*** you ten years ago.
RIGHT: I wish I ***had known*** you ten years ago.
WRONG: The secretary wishes that she ***has*** time to type the letter now.
RIGHT: The secretary wishes that she ***had*** time to type the letter now.
WRONG: I wish you ***won't*** interrupt me while I'm taking.
RIGHT: I wish you ***wouldn't*** interrupt me while I'm talking.
WRONG: She wishes that she ***was*** a good actress.
RIGHT: She wishes that she ***were*** a good actress.

WORDINESS

Avoid wordiness by choosing economical constructions to express ideas clearly and concisely and by eliminating all unnecessary words. নিচের বাক্যগুলোতে শব্দের বাহুল্য (wordiness) কিভাবে avoid করা হয়েছে লক্ষ্য করুনঃ

WORDY: There are several causes of malnutrition, one of which is vitamin deficiency.
CONCISE: Vitamin deficiency is one cause of malnutrition.
WORDY: I think that Being There is Peter Sellers' best movie, superior to all others.
CONCISE: I think that Being There is Peter Sellers' best movie.
WORDY: Regarding the subject of laws governing motorists, many people feel that the speed limit should be increased to sixty-five miles per hour.
CONCISE: Many people feel that the speed limit should be increased to sixty-five miles per hour.
WORDY: The novel was neither interesting nor was it well written.
CONCISE: The novel was neither interesting nor well written.
WORDY: The famous singing group, "The Rolling Stones," is known internationally throughout the world.
CONCISE: "The Rolling Stones" is an internationally known singing group.
WORDY: The reason why he left New York two days early was that he had to attend a conference in Miami.
CONCISE: "He left New York two days early to attend a conference in Miami.
WORDY: There are various and sundry reasons why one should avoid discussing religion.
CONCISE: There are various reasons why one should avoid discussing religion.
WORDY: The Bridge stretched across the vast swampland, and the bridge was twenty-five miles long.
CONCISE: The twenty-five-mile-long bridge stretched across the vast swampland.
WORDY: It was clearly evident that the grass had been cut.
CONCISE: It was evident (or it was clear) that the grass had been cut.
WORDY: She is a tennis player who plays tennis regularly.
CONCISE: She plays tennis regularly.
WORDY: I picked up the heavy tools with my two hands.
CONCISE: I picked up the heavy tools with my hands.
WORDY: Sir Thomas More was a writer who wrote Utopia.
CONCISE: Sir Thomas More wrote Utopia.
WORDY: There is a society called the Audubon Society, which was named in honor of John Audubon, the great artist.
CONCISE: The Audubon Society was named in honor of John Audubon, the great artist.

WORD ORDER

The order of most adverbs in English is very flexible, and their position is often changed. Adverb এর position কোথায় হবে তা জানার general rules গুলো হলো-

(1) The normal position for most adverbs is at the end of the sentence. An adverb of manner will come first, followed by an adverb of place, and finally, an adverb of time.

(2) The verb and object are never separated by an adverb.

(3) The adverb of time often comes at the beginning of a sentence.

(4) With verbs of movement, the place adverb follows the verb.

লক্ষ্য করুন, নিচের sentence গুলোতে adverb কোথায় বসেছে লক্ষ্য করুন

WRONG: He spoke at the meeting knowledgeably this morning.
RIGHT: He spoke knowledgeably at the meeting this morning. } adverb of manner বসেছে adverb of place এর আগে।

WRONG: The family came in 1975 to the United States by boat.
RIGHT: The family came to the united States by boat in 1975. } place adverb verb কে follow করেছে।

WRONG: I read quickly the letter from my parents.
RIGHT: I read the letter from my parents quickly. } adverb দ্বারা verb ও object কে separate করা যায়না।

WRONG: The student spent in the library six hours yesterday.
RIGHT: The student spent six hours in the library yesterday.
} adverb of time verb এর follow করছে।

WRONG: Do you want to go to tonight to the movies?
RIGHT: Do you want to go to the movies tonight?
} verb এ object logical order এ থাকছে।

WRONG: The Arab speaks very well English.
RIGHT: The Arab speaks English very well.
} normal position of adverb

WRONG: She does completely her assignments every night.
RIGHT: She does her assignments completely every night.
} verb I object logical order এ থাকছে।

WRONG: My husband prefers to eat at home his lunch at noon.
RIGHT: My husband prefers to eat his lunch at home at noon.
} verb ও object logical order থাকছে।

Additional notes on word order:

(1) In noun clauses introduced by a question word, use statement word order.

Example: I'm not sure what he bought at the store.

(2) Place the frequency adverb in front of the principal verb of the sentence except for the verb "be."

Example: The chairman is always on time.
Example: The children never quarrel with each other.
Example: We have often visited them.

(3) When a sentence begins with a negative or near-negative word or phrase, use question word order.

Example: Never do the children quarrel with each other.
Example: Only at the zoo can you see monkeys.

WRONG: I forget sometimes my phone number.
RIGHT: I sometimes forget my phone number.

WRONG: We just have finished eating.
RIGHT: We have just finished eating.

WRONG: The highways usually are crowded on the weekend.
RIGHT: The highways are usually crowded on the weekend.

WRONG: Rarely I have been to court.
RIGHT: Rarely have I been to court.

WRONG: Almost never he irons his own clothes.
RIGHT: Almost never does he iron his own clothes.

WRONG: Hardly ever they attend church.
RIGHT: Hardly ever do they attend church.

WRONG: Not only he broke two glasses, but also he left the table dirty.
RIGHT: Not only did he break two glasses, but also he left the table dirty.

WRONG: Nowhere in this city you will find high fashion.
RIGHT: Nowhere in this city will you find high fashion.

WRONG: Do you know why is he so angry?
RIGHT: Do you know why he is so angry?

WRONG: It is unclear how did he escape.
RIGHT: It is unclear how he escaped.

WRONG: He doesn't know when will he be here again.
RIGHT: He doesn't know when he will be here again.

WRONG: Please show me how does this machine work.
RIGHT: Please show me how this machine works.

WRONG: I'm never quite sure whom can I trust.
RIGHT: I'm never quite sure whom I can trust.

WRONG: I need to know what time is it.
RIGHT: I need to know what time it is.

WRONG: Cam you tell me where is his house?
RIGHT: Cam you tell me where his house is?

WRONG: I wonder why did he tell a lie.
RIGHT: I wonder why he told a lie.

PRACTICAL USAGE

This chapter includes some practical English usage materials. This stuff is brought about to in this book from the well-renowned English Grammar Book **PRACTICAL ENGLISH USAGE** by **MICHAEL SWAN.**

Go through these things. This will help you recognize the errors in the grammatical section. This section will also help you for the Written English section.

About and On:

On is used to suggest that a book, article, lecture etc is serious or academic, suitable for specialists.

About is usual when the information given is more general, or the style of communication is more casual.

Example:

a textbook on African history ;a book for children about Africa and it's peoples ;
a lecture on economics ; a conversation about money ;
an article on British industrial problems ;an argument about strikes.

Above and over:

Above and over can both be used to mean 'higher than '.

Example: The water came up above /over knees. Can you see the helicopter above /over the place?

When the meaning is 'covering' or 'crossing ' , we usually use over.

Example: The plane was flying over Denmark. Electricity cables stretch over the fields.

With numbers , and expressions of quantity or measurement , it is more common to use over (= 'more than ').

Example: There were over 10,000 people at the pop festival. You have to be over 18 to see this film.

But above is used when we think about measurement on a vertical (up and down) scale.

Example: The temperature is three degrees above Zero. She's well above average in intelligence.

Confusing Adjectives and adverbs:

Across and through:

Across and through can both be used for a movement from one side of an area to another. Across is related to on –it suggests that the movement is on a surface. Through is related to in –you move through a three dimensional space, with things on all sides.

Example: I walked across the square to the café. I pushed through the crowds to the bar.

Through is not used for a movement from one side to other of something 'long and thin ', like a river.

Example: She swam across the river. (Not through the river)

Across and Over:

The preposition across and over are often used with same meanings but there are some differences.

They can both be used to mean "on or to the other side "of a line , river road etc.

Example: We walked over/across the road. His room's just over /across the corridor.

Both across and over can mean "on the other side of 'a high barrier, but only over is used for movement to the other side of something high.

Example: If we can be over/across the fence before sunrise we've got a chance.

When I last saw him he was climbing very slowly over the fence. (Not across the fence).

The preposition across and over can both be used for movement inside an area.

Example: Who are those people wandering across /over the field?

However, when we mean 'from one side to other side of the area ', we only use across.
Example : It only took him six weeks to walk across the desert.(Not over the desert)

Ago:
Ago is placed after an expression of time, not before it.
Example: I met her three years ago; a long time ago.

Ago is used with a past tense, not the present perfect.
Example: I left school years ago.

Ago and for are not the same. Ago tells you how long before the present something happened ; for tells you how long an action or situation lasted .
Example: My father died three years ago. He was ill for three years before he died.

Alike :
Alike means 'like each other '.It is only used after a verb .
Example: His two daughters are very (much) alike. He's got two similar –looking daughters. (Not .....alike daughters).

All and whole:
Whole and all are often used with the same meaning. However the word order is different .All comes before an article, possessive or other determiner; whole comes after articles etc.
Example: all the time, the whole time.
All my life. My whole life.

Almost and nearly:
Nearly and almost have similar meanings, and in many cases they can both be used without much difference. Usually, almost is used to mean that something is a little nearer than nearly. We might say It's nearly lunch time. It's almost lunch time.
Example: We are nearly there. We are almost there.
She is nearly six feet tall. She is almost six feet tall.

Sometimes almost don't talk about progress towards an end or about things that are easy to measure .In cases like these almost, not nearly, is used.
Example: I almost think you're right. It's almost incredible.
My aunt almost sounds foreign. In that long dress she looks almost graceful.

Nearly is not often used with never, nobody, no-one, nothing nowhere, no and none. Instead we use almost and ,or we use hardly with a non-negative form.
Example: Almost never Almost nobody
Hardly anybody Hardly ever

Along:
Along is used with nouns like river, corridor, road, line (words that refer to things with a long, thin shape.
Example: I saw her running along the road.
His office is along the corridor.
But with more abstract words (or nouns that refer to time or activities),
We use through.
Example : All through the journey...
Through the story we learn how to .....

Already and all ready :

Already means by now, sooner than expected.

Example: She is already here - I was not expecting her till ten.

All ready is just a combination of the two words all and ready.

Example: Are you all ready ?

Anyway:

Anyway most often means 'What was said before does not matter'.

Example: I can't remember when Shakespeare died .Perhaps it was in 1614 or 1615 – anyway, I know it was around then.

Any how is used in a same way.

Do not confuse anyway and any way .

Example: She was not very polite , but anyway ,I helped her.

Can I help you any way?

In :

In is also used to say how soon something will happen, and to say how long something takes to happen.

Example: Ask me again in three or four days.

I can run 200metere in about 23 seconds.

The expression in.....'s time normally refers to the future.

Example: I'll see you again in a week's time.

It'll be finished in about three week's time.

AT, IN and ON expression of place

Pronunciation: At has a week from and this is the most usual pronunciation. In and on do not have weak forms.

GENERAL

At, in and on are all used to talk about position in space. The difference between them are rather complicated, and it is not always easy to know which of three is correct.

AT A POINT

Example: My house is at the third crossroads after the bridge.

If you are at the North Pole, every direction is south.

ON A LINE

Example: We've got a nice little cottage on the river.

There's a good restaurant on the Glasgow road.

ON A SURFACE

Example: What's that black mark on the ceiling?

You used to have a picture on that wall, didn't you?

ON [Lines]:

We use on to say that something is touching or close to a line, or something like a line [e g a river, a road, a frontier].

Example: We live on a small river that flows into the Tames.

Carlisle is on the road to Newcastle on Tames.

Note : However that in is used to talk about the position of things which actually form part of the line.

Example: There's a misprint in the sixth line on page 22.
Who's the blonde girl the front row?

On is also used for a fixed location by a body of water.
Example: Bowness is on Lake Windermere.
Southened is on Sea.

ON [surfaces:]

ON is often used to say that something is resting on top a surface. However, it can also be for position in contact underneath a surface.

Example: Come on – supper's on the table!
We spent the afternoon in a boat on the lake.
I think that picture would I look better on the other wall.
I've got something on the sole of my shoe.
I wish I could walk on the ceiling like a fly.

IN:

In is used when n the surroundings are three – dimensional [when something id surrounded on all sides.]

Example: Who's the stay man in the wardrobe?
I won't stay in bed; I'll just lie down on the bed for half an hour.
I've lost my ball in the long grass. [but on the lawn].

In is also used for position on a surface with a wall, fence etc round it [so that it seems enclosed ands three dimensional].

Example: Let's picnic in that field over there.
I last saw her in the car park. [but on the beach]

With larger areas [countries, regions, and large island] we say in even if they are not enclosed.

Example: She lives with Buckinghamshire
He lived with nomads in the Sahara desert for two years.
I've got a cottage in Jersey.[but on a desert island]

Part of the Body

Typical mistake: She had blood in her forehead.

On is used with the names of most part of the body surface.

Example: She had blood on her forehead.
I kissed her on both cheeks.

In is used with the softer and more "hollow' parts of the surface.

Example: I hit him on the jaw/ ear/ shoulder /nose/neck.
I hit him in the eye / mouth/ ribs/stomach.

In is usually used to talk about wounds, and [of course] for position inside the body .

Example: He was wounded in the shoulder.
I've got a pain my head.

Means of Transport

On [or onto] and off used to talk about public transport [and of course horses, motorbikes and bicycles]. In other cases [e g cars , taxis, lorries ,small boats private planes]we normally use in, into, out and out of.

Example: You'd better get on the next plane to Berlin.
He was arrested as he got off the train.

I saw Gloria in a new Mercedes yesterday.
The taxi stopped and a beautiful girl got out.

Addresses:
At is used with the house number.
Example: She lives at number 73.

In British English, in is used with the name of the street, but American says on:
Example: She lives in Hazel Avenue. [British]
She lives on Hazel Avenue.
If both the number and the street name are given, only at is used.
Example: She lives at 73 Hazel Avenue.

On is used with the word floor [to say what part of a house somebody lives in].
Example: I live on the third floor.

Note that the names of the floor are not the same in British and American English:
Example:

U.S	G.B
Third	Second
Second	first
First	ground

At [target]:
At is used after several verbs to indicate the target of an attack of some sort. The most common are shoot at , throw.....at, shout at , laugh at .[Throw .....to and shout to are used when there is no idea of attack.] We also say smile at and arrive at [never * arrive to].

Wake (Up)/And Waken
Wake (woke, woken) is the commonest word of these two. It is used to mean stop sleeping or stop (somebody else) sleeping. It is often followed by up.
Example: Could you wake me (up) at about eight?
I woke (up) early this morning.
Regular forms (waked) are also possible, but they are unusual in British English.

Waken (regular) is sometimes used instead of wake with a direct object.
Example: The prince wakened her with a kiss on the forehead.

Awfully/ terribly/ frightfully, etc.
Awfully, and some other words with similar meanings, are often used in informal English to mean 'very'. (They are particularly common in upper-class speech.).
Example:
Awfully sorry to trouble you – could you help me for a moment?
The film was terribly good.
It's getting dreadfully late.
She's a frightfully nice girl.

Note the difference between the adjectives terrific and terrible. Terrific is used in an informal style to mean 'very good'; terrible means 'very bad'.
Example:
There's a terrific new restaurant in South Street – shall we go there for lunch?
Don't ask me to take you – I'm a terrible driver.

Back:
Back (or back again) is used for a movement in the opposite direction to the movement that was talked about before.

Example:
Give my watch back to me. (or: Give back my watch to me.)
Give it back to me.
I think I'll take the meat back to the shop. (Or : .... Take back the meat ....)
I think I'll take it back.

Again (without back) is different. It is an adverb, and is generally used to indicate a repetition of the same action or movement.

Example:
When I've recorded your voice I'll play it back (again).
That was lovely. Can you play it again?
I enjoyed our evening at Susan's place. We must invite her back (again).

Be (as progressive tenses):
You can say I'm being careful or You're being annoying, but not
I'm being happy or She's being tired.
We use the progressive tenses of be (I'm being, etc), to talk about people's activity and behavior, but not about states of mind and feelings.

Example:
I'm being careful.
You're being annoying.
You're being very patient with me.
She was being terribly energetic .
You were being stupid (= behaving stupidly).

Be + infinitive :
This structure is often used to talk about arrangements which have been planned for the future.

Example:
The Queen is to visit Japan next year.
There's to be a rail strike on July 18th.

Be + infinitive can also be used to give orders. (Parents often tell children to do things in this way.)

Example:
You're to do your homework before you watch TV.
Tell her she's not to be back late.

Because and because of:
Typical mistakes : I was worried because of Mary was late.
She was late because the traffic.
Because is a conjunction (used before a clause, with a subject and verb); because of is a preposition (used before a noun or pronoun).

Example:
I was worried because Mary was late.
She was late because of the traffic.

Been and gone:
Both of these words are used as past participles of to go, but with different meanings.

Example:
My husband's gone to London today. (He hasn't returned.)
My husband's been to London today. (And he's returned.)
Mary's gone to Nigeria. (She's there now, or on her way.)
Have you ever been to Nigeria? (Said to somebody who is not in Nigeria.)

Before and In front of:
Typical mistake: I think I'll put the desk before the window.
In modern English, before is not very often used as a preposition of place; we use in front of instead.
Example:
I think I'll put the desk in front o the window.
There's a car parked right in front of our gate, and I can't get out!
Before is used to refer to place in a few cases:
Talking about the order in which things come (in lists, etc.)
Your name comes before mine.

Sometime before is used to mean 'in the presence of (somebody important)'
Example:
I came up before the magistrates for dangerous driving last week.

Begin, start and commence:
In many cases, begin and start can be used with no real difference.
Example:
I started/began mountain climbing when I was eighteen.
It's no use waiting for Jeremy – let's start/begin.
In an informal style, start is more common than begin. It would seem more natural to say Damn, it's starting to rain! Than Damn, it's beginning to rain!
Start is used in some cases where begin is not possible.
Example:
'To start a journey'
I think we ought to start at six, while the roads are still clear.
'To start working' (for machines)
The car won't start.
'To make (machines) start'
How do you start the washing machine?

Commence:
Commence is used in the same way as begin, but it is a much more formal word, and unusual in spoken English.
Example:
Term will commence on September 4th.

Belong:
Typical mistake : It's belong to me.

Belong is a verb: we say It belongs to me.

Note also the use of belong before a preposition or adverb, to talk about the right place for a person or thing.

Example:
The knives belong in the left-hand drawer.
I don't really feel I belong in the accounts department.
We belong together.

Beside and besides:
Beside is a preposition that means 'at the side of' or 'by',

Example:
Who's the big blonde sitting beside Philip?
Besides is both a preposition and an adverb.
As a preposition, it is used rather like as well as, when we want to add new information to what is already known.
Example:
Besides literature, we have to study history and philosophy. (history and philosophy as well as literature)
Who was at the party besides Jack and the Bensons? (I know about Jack and the Bensons, but who else was there?)
As an adverb, it means 'also', 'moreover' or 'as well'. It usually goes before a clause.
Example:
I don't like those shoes; besides, they're too expensive.
It's too late to go out no. Besides, it's starting to rain.

Better:
We often say that someone is better when we mean that he has recovered from an illness. In this sense, better can be used with the words completely or quite. (Other comparative adjectives cannot be used in this way:
Example:
Don't start work again until you're quite better.
Do not use better to correct a mistake. We say or rather.
Example:
She's gone to Hungary – or rather Poland.

Can and could :
Typical mistakes:
I can to swim.
Do you can speak French?
I'd like to can stay here.

Can and could are 'modal auxiliary' verbs, like for example must, should and may. These verbs have no infinitives or participles (to can, canning, I've could do not exist) ; when necessary, we use the infinitives and participles of other verbs instead.

Example:
I'd like to be able to stay here.
You'll be able to walk soon. (Not: You'll can ...)
I've always been allowed to do what I like. (Not: I've always could ...)

Like other modal auxiliary verbs, can has no -s with the third person (he cans); questions and negatives are made without do (can you?, not do you can?) can and could are followed by an infinitive without to.

Example:
I can swim.
Can you speak French?
Can Shirley get here by lunchtime, do you think?
Could is not only the past of can: it can be used to talk about the present and the future.
You could be right.
Could I see you tomorrow evening?

Could also have a conditional use.
I could marry him if I wanted to. (=I would be able to ...)

Can as Present and future:
Can is usually used to talk about the present, or about 'general ability' – the ability to do something any time you want to.
Example:
Look! I can do it!
You can certainly cook, even if you can't do anything else.

Be able to is also possible, but less common.
Example:
You are certainly able to cook.
You are certainly able to beat him.

To talk about future ability, will be able to is normally used.
Example:
I'll be able to speak German in another few months.
One day people will be able to run a kilometer in two minutes.
If I have a good sleep I'll be able to work out the problem.

But can is often possible when people make present decisions about future ability.
Example:
We're too busy today, but we can repair your car tomorrow.
We can talk about that later.
Can you come to a party on Saturday?
Could is used for 'general ability', to say that you could do something any time you wanted to. (Was/were able to is also possible.)
Example:
She could sing like an angel when she was a kid. (Or: She was able to sing ....)
My father could speak ten languages.
Could is also used in a conditional sense (meaning 'would be able to')
Example:
I could have a really good time if I had a flat of my own.
We could do it by midday if we had the tools.
I could break your neck!

Can and could with see, hear, etc. :
The verbs see, hear, feel, smell and taste have several different meanings.
Example:
I'm seeing him tomorrow. (=I'm interviewing him)
I can see stars. (Not: *I'm seeing .....)

Could is used for the past.

Example:
I can see Henry over there.
I can feel something crawling up my leg.
When I got off the train I could smell the sea.

Can and could, may and might as possibility:
Typical mistakes: Will you answer the phone? It can be your mother.
According to the radio it can rain this evening.

When we say that something is possible, we can mean two different things.

Example:
It's possible to hold one's breath for three minutes, with practice.
'Do you think you'll come back next year?' – 'It's quite possible.

When we want to say that there is a chance of something happening, we use could (or may or might).

Example:
Will you answer the phone? It could (may, might) be your mother.
According to the radio it could (may, might) rain this evening.

Can and could, may and might as permission:
Can, could, may and might are all used in asking for permission. Can is probably the commonest of the four (though some people consider that can is 'not correct' and that one should say May I ..... ?).

Example:
Can I have a drop more whisky?
Could I ask you something, if you're not too busy?

May and might are used in a more formal style; they often suggest respect. Might is more hesitant, and is not very common.

Example:
May I make a suggestion?
May I stop work a little earlier tonight?
Might I take the liberty of pointing out that you have made a small mistake?

As Conditional:
Could can be used in a conditional sense (='would be allowed to'). With a perfect infinitive, it means 'would have been allowed to'.

Example:
He could borrow my car if he asked.
I could have kissed her if I'd wanted to.

Can and could as offers and requests:
Can and could are often used to offer to do things for people, and to ask other people to do things. Could is more 'hesitant', less definite, than can, and it is used when we want to make an offer or a request seem more polite or respectful. Statements and questions are both common.

Offers :

Example:
I can lend you a pound till Wednesday, if that will help.
I could do the shopping for you, if you're tired.

Can I carry your bag?
Could I give you dinner one of these days?
In questions, may is also possible
May I buy you a drink?

Requests and orders:

Example:
You can start by doing the washing up, and then you can clean the car.
Celia can do the shopping, and I'll do the cooking. Harold can do the washing-up.
You could phone Alice and see what time she's coming.
Can you come here a minute, please?
Could you help me with this letter?

Borrow and lend

Typical mistakes: Can I lend your bicycle?
Can I borrow you five pounds?

Borrowing is like taking. You borrow something from somebody.

Example:
Can I borrow your bicycle?
I borrowed a pound from my brother.

Lending is like giving. The verb can be used with two objects, or with the preposition to (like give).

Example:
Lend me your comb for a minute, will you?
I lent my car to my brother's girl-friend, and she smashed it up.

In passive sentences, lend (but not borrow) can be used with a personal subject.

Example:
We've been lent a cottage in the Alps for the summer.

Both:

Both can be used in two main ways in a sentence. It can come in the noun group (with the subject or object), or it can come with the verb.

Example:
Both (of) the children have been to Greece.
The children have both been to Greece.

There is no real difference of meaning in these two ways of using both, but there are one or two grammatical problems. Both (with or without of) can be followed by the + noun, by possessive + noun, or by demonstrative + noun.

Example:
Both (of) the cars broke down soon after the start.
Both (of) my children are fair-haired.
I got both (of) these vases in Spain.

Both is used without of if there is no article, possessive or demonstrative with the noun.

Example:
I've got blisters on both feet. (Not: * ... both of feet.)

Both children have been to Greece.

Bring and take

Typical mistake: Let's have one more drink, and then I'll bring you back home.

It is not always easy to choose correctly between these two words. Basically, bring is used for a movement towards the person who is speaking or writing; take (in one sense) is used for movements in other directions.

Example:

Come over here and bring your book.
I'm bringing my wife back home from hospital this evening.
I once had to take a group of students from Rome to Berlin.
Let's have one more drink, and then I'll take you back home.

By and near

By means just at the side of; something that is by you may be closer than something that is near you.

Example:

We live near the sea (perhaps five kilometer away).
We live by the sea (we can see it).

By: time

One meaning of by is not later than. For instance, by five o'clock means at or before five, but not after.

Example:

You can borrow my camera, but I must have it back by five o'clock.

By the time (that) is used with a verb, to mean not later than the moment that something happens.

Example:

I'll be in bed by the time you get home.
By the time that the security guards had realized what was happening, the gang were already inside the bank.

Determiners

Articles (a, the), possessives (my, your, etc) and demonstratives (this, that, these, those) are grammatically similar. They all come at the beginning of noun phrases.

Example:

a nice day my fat old cat this house

Grammarians call these words (and some others) 'determiners'. Usually, only one determiner can be used in noun phrase. You can say the house, my house, this house, but not *the may house or *the this house or *this my house.

The other determiners are :
Some, any, no
Each, every; either, neither
What, whatever; which, whichever
Enough
Much, many, more, most; little, less, least; few, fewer, fewest several
All, both, half

These determiners, too, are used at the beginning of noun phrases,

Example:

some strange people	either possibility	what time?
Enough money	most problems	several warm days
Both lecture rooms		

Most of the words in the list in section 2 above can also be used as pronouns, without nouns.

Example:

I've found some.
You can choose either.
What do you want?
I haven't go enough.
There are several.
Both need cleaning.

Most of the words in the list in section 2 above can be used either as determiners in a noun phrase, or as pronouns followed by of + noun phrase.

Example:

Some people	some of the people
Most holidays	most of my holidays
Enough red wine	enough of this red wine

Before another determiner (article, possessive or demonstrative), the of-structure must be used.

Example:

Some of the people (Not: *some the people)
Most of my holidays (Not: *most my holidays or *my most holidays)
Enough of this red wine (Not: *enough this red wine)

When there is no other determiner in the noun phrase, of is not used.

Example:

Some people (Not : *some of people)
Most holidays (Not : *most of holidays)
Enough red wine (Not: *enough of red wine)

Most determiners can be used with both singular and plural nouns and verbs.

Example:

Which is your favorite composer ?
Which are your favorite novelists?

Each, every, either and neither are always used with singular words when they are determiners.

Example:

Each day is different from the next.
Neither plan really suits me.

When they are used as pronouns, they are also usually used with a singular verb.

Example:

Each of them is broken.
Either of the houses is big enough.

However, a plural verb is possible after neither of ---- and after either of ----- in negative sentences.

Example:

Neither of them want(s) to come.
I don't think either of them is/are at home.

During and In:

Both these prepositions can be used when we are talking about periods of time (during the summer/in the summer). In many cases there is no difference, but sometimes one seems more natural than the other, and occasionally only one of them is possible.

Both in and during can be used to talk about something that happens: (1) right through a particular period of time; (2) at some point (or at several points) between the beginning and the end of the period.

Example:

We'll be on holiday in/during August.

I woke up in/during the night.

I woke up three times in/during the night.

We prefer in when we are saying exactly when something happens; to say in this period, not in that one.

Example:

No, it was in 1970, not 1969.

We usually go on holiday in July, but last year we went in September.

When we refer to an activity, rather than to a period of time, only during can be used.

He had some amazing experiences during his military service.

(Not: ..... in his military service.)

Example:

He had some amazing experiences during/in his childhood.

Each and every:

Each and every do not mean quite the same. Every puts people or things into a group, like all; we often use every to generalize. (For the exact difference between all and every). Each separates; when we say each violinist, each child or each player.

Example:

Every professional violinist practices for several hours a day.

Each violinist has his own way of playing the Beethoven concerto.

We want every child do succeed.

Each child will find his own personal road to success.

Every player was on top form.

Each is used as a 'determiner' with a singular (countable) noun.

Example:

Each day is better than the one before.

I've inspected each repair myself.

When there is another determiner (article, possessive or demonstrative), each of is used with a plural noun.

Example:

Each of my aunts gave me socks for Christmas.

I've invited each of my colleagues in turn.

Each of is also used before a personal pronoun.

Each of them gave me socks.

She phoned each of us.

Either and Neither:

Either is instead of too and also in negative sentences.

Example:

'I like opera.' – 'I do too.'

'I don't like opera.' – 'I don't either.'

I don't enjoy tennis, and I don't much like swimming either.

In 'short answer', structures with nor and neither are also possible.

Example:

'I haven't read any Dickens.' – 'Nor/neither have I' (Or: 'I haven't either.')

Either can be used with or to talk about two possibilities (and sometimes more than two).

Example:

You can either come with me now or walk home.

Either you leave this house or I'll call the police.

You can either have soup, fruit juice or melon.

Either is used as a pronoun, alone or with of + plural noun phrase.

Example:

'Do you want whisky or gin?' – 'Oh, I don't mind. Either.'

Has either of your parents visited you?

Enjoy can't be used without an object. When we talk about having fun, having a nice time in general, we use the expression to enjoy oneself.

Example:

I enjoyed myself very much at the party.

Well, have a good holiday – enjoy yourself, and don't do anything that I wouldn't do!

You can also enjoy an activity, a meal, etc.

Example:

She really enjoys her food: it's a pleasure to watch her eating.

I very much enjoyed the party.

I don't enjoy travelling very much. (Not: ..... enjoy to travel ...)

Enough:

Enough with adjectives and adverbs

Example:

You're not working enough carefully.

Enough comes after adjectives and adverbs.

Example:

good enough fast enough

soon enough carefully enough

I'd like to be a professional singer, but I don't think I've got a good enough voice.

Enough comes before nouns. Enough of is used before a determiner (article, possessive or demonstrative), but of is not used when there is no determiner.

Example:

Is there enough of the blue material?

I've had enough of this nonsense.

Is there enough blue material?

Have we got enough bread?

Even:

Typical mistake:

She got very angry; even she told me to get out of the house.

If we want to say that an action is surprising, we put even with the verb (in 'mid-position).

Example:

She even told me to get out of the house.

He's done everything – he's even been a racing driver.

Even can go in other places to give special emphasis to particular parts of the sentence.

Example:

Anybody can do this. Even a child could do it.

He'll eat anything – even raw potatoes.

Ever:

Ever usually means 'at any time' (for the meaning of any). It is not the same as always, which means 'at all times' or 'all the time.

I will always remember you.

Ever is opposite in meaning to never, which means 'at no time'.

Example:

Come and see me if you are ever in London.' – 'No, I'm afraid I never go there.'

Ever is used mainly in questions. It can also be used in affirmative sentences with if, and with words that express a negative idea (like hardly, stop).

Example:

Do you ever go to the opera?

We hardly ever go out.

Ever is used with the present perfect tense to mean 'at any time up to now'.

Example:

Have you ever been in a submarine?

It can also be used with a past or past perfect tense.

Example:

Did you ever meet Jake Albright at university?

She asked me if I had ever been in trouble with the police.

We can use ever after comparative – than.

Example:

You're looking lovelier than ever.

Ever has a special use in the expressions forever (also written for ever), ever since, and in compounds like ever-loving, evergreen. Here it means 'always,' and can be used in affirmative sentences.

Example:

I shall love you forever.

Ever means 'at any time in the past'.

Example:

Have you ever been to Canada?

Yet and Already:

Yet and already are both used when we are thinking about a time close to the present. Yet is used to talk about things we expect to happen.

Example:

'I'm travelling round the world.' – 'Have you been to Canada yet?

Already suggests that things have happened earlier than expected, or earlier than they might have happened.

Example:

Good heavens! Are you back home already?

Whoever and Whatever:

Whoever, whatever and so on mean something like 'it doesn't matter, it doesn't make any difference who/what, etc'. There is a grammatical difference. But whoever, whatever, etc are conjunctions: they can only be used to join two clauses together.

Example:

It doesn't matter where you go; I'll go with you.
Wherever you go, I'll go with you.
Whatever you say to her, she still keeps smiling.
Come and see me whenever you're in Liverpool.

Whoever means no matter who.

Example:

Whoever telephones, tell them I'm out.
I 'm not opening the door, whoever you are

The object form is whoever, not whomever.

Example:

Whoever you marry, make sure she can cook.

The clause with whoever can be the subject or object of the verb in the other clause; in this case, whoever means 'anybody who', or 'the person who'.

Example:

Whoever told you that was lying.
I'll give my ticket to whoever wants it.

Whatever means 'no matter what'. It can be used with a noun (as a determiner') or alone (as a pronoun).

Example:

Whatever problems you have, you can always come to me for help.
Whatever you do, I'll always love you.
Sometimes the clause with whatever is the subject or object of the verb in the other clause. In this case, whatever means 'anything that'.

Example:

Whatever you want is fine with me.
Whatever you cook tastes delicious.

Whichever is used in a similar way to whatever (but nearly always with a following noun).

Example:

I'll take whichever gift you are going to give me.
Whichever day Riyad comes, we'll be pleased to see him.

Exercise 1

Directions: Choose the one word or phrase that best completes each sentence.

1. By measuring changing conditions in the atmosphere, _____ general weather patterns.
   (A) meteorologists who are predicting (B) meteorologists were predicted
   (C) predicting meteorologists (D) meteorologists can predict
2. Not until the end of the nineteenth century, ____ become a scientific discipline.
   (A) plant breeding had (B) did plant breeding (C) plant breeding have (D) have plant breeding
3. The cerebral cortex is _____ where the process of remembering faces takes place.
   (A) the area is brained (B) the area of the brain (C) and a brain area (D) brain area
4. By the end of the nineteenth century, Thomas Edison had invented the first practical light bulb, _____.
   (A) source of cheap electrical light (B) the light of electricity cheap source
   (C) a source light cheap electrically (D) light with cheap electricity source
5. _____ about babies' feelings inferred from their facial expressions.
   (A) What we know (B) To be known by us (C) Knowing (D) Known
6. _____, communities are formed in a variety of ways.
   (A) Created a division of labor (B) To create a division of labor
   (C) Create a division of labor (D) Creation of division of labor
7. Often weighing _____100 pounds, large dogs are used to pull sleds in the snow.
   (A) more than (B) just an (C) than it is (D) than
8. ____ some countries that have two seasons of the year instead of four seasons.
   (A) Are (B) Any (C) There are (D) There is
9. Approximately ninety percent of the U.S. population will probably live in _____ near cities by the beginning of the year 2000.
   (A) or (B) for (C) so (D) by
10. Not until recently did scientists have enough data _____to do a statistical analysis.
    (A) on animal life spans (B) life span on animals
    (C) difference about life animal spans (D) life span about animal different

Exercise 2

Directions: Choose the one word or phrase that best completes each sentence.

1. The conditions necessary _____ this project have not been met.
   (A) for the complete of (B) of completion of (C) for the completion of (D) of complete
2. _____ are found in virtually every country in the world.
   (A) Fruit flies and mosquitoes (B) Now that fruit flies and mosquitoes
   (C) When fruit flies and mosquitoes (D) Fruit flies and mosquitoes which
3. Successful salespeople _____and understand the needs of the market.
   (A) products are thoroughly known (B) know their products thoroughly
   (C) thoroughly know their products are (D) their products are thoroughly known

4. _____the number of members of the executive board in a big corporation is fixed by the by-laws.
(A) nevertheless (B) instead (C) despite (D) not

5. Lasers _____ steel by focusing an intense beam on the metal.
(A) cutting (B) cut (C) to cut (D) of cutting

6. _____ common nuclear reaction, cold fusion does not require a high temperature.
(A) Alike (B) It is unlikely (C) It is not like (D) Unlike

7. Native American people arrived on the North American continent _____Europeans.
(A) since (B) for (C) before (D) ahead

8. The ways of travelling _____ dramatically since the late nineteenth century.
(A) will have changed (B) has changed (C) have changed (D) will change

9. How many of us _____ over complicated changes in the law!
(A) not frustrated (B) not become frustrated
(C) have not become frustrated (D) is not frustrated

10. A promissory note _____anything without the trust deed.
(A) does mean (B) is mean (C) have not mean (D) may not mean

Exercise 3

Directions: Choose the one underlined portion of each sentence that must be changed in order for the sentence to be correct.

1. Leaves <u>are believed</u> to be one of the best <u>substance</u> <u>to form</u> compost <u>piles</u>.
A B C D

2. Wood <u>is</u> an excellent <u>resource</u> for <u>heating</u> homes, cooking food, and <u>build</u> houses.
A B C D

3. River water <u>pollution is</u> often <u>indicator</u> <u>by</u> algae <u>distribution</u>.
A B C D

4. <u>Modern farms</u> are <u>much larger</u> than <u>that</u> of <u>former times.</u>
A B C D

5. <u>It is</u> often not until the end of their lives <u>that</u> famous people receive the <u>recognize</u> they <u>deserve</u>.
A B C D

6. <u>Usually</u> <u>the</u> climate in mountainous areas becomes <u>much windly</u> <u>at higher</u> altitudes.
A B C D

7. A <u>physical chemist</u> is <u>required</u> to <u>function</u> simultaneously as a physicist, <u>chemistry</u>, and mathematician.
A B C D

8. A baby gorilla is a <u>shy</u>, <u>friendly</u> animal <u>;hat</u> <u>like</u> attention.
A B C D

9. <u>Every liquid</u> has <u>its own</u> threshold temperature <u>which above</u> it becomes <u>a gas</u>.
A B C D

10. <u>After</u> being exposed to moist air, copper <u>forms</u> a patina, <u>the</u> thin green <u>crust</u>.
A B C D

Exercise 4

Directions: Choose the one underlined portion of each sentence that must be changed in order for the sentence to be correct.

1. Both personality and external looking vary greatly even among brothers and sisters.
   A B C D
2. Atomic units, the determinant quantities of energy, time, length, charge and to weight, are
   A B
   vital to the functioning of physical science.
   C D
3. A chemist's job often deals with the classify of organic chemicals.
   A B C D
4. Trace contaminates can found even in purified gases that are labeled 99,9999% pure.
   A B C D
5. Many scientists having had their works distributed by a scientific publishing house based in
   A B C D
   New York.
6. Some universities has set up small colleges for closer relationships between professors and
   A B C D
   students.
7. The number of teaching assistants required meeting undergraduate course needs is rapidly
   A B C D
   increasing.
8. Some skunks can walking briefly on their hind legs.
   A B C D
9. Franklin Delano Roosevelt, who confined to a wheelchair, was a very popular and successful
   A B C D
   U.S. president.
10. Not until the electrolysis experiments of Michael Faraday did the first ideas about the nature
    A B
    of chemical bonding became a serious topic in chemistry.
    C D

Answer Key for Exercises 1 - 4

Exercise 1	Exercise 2	Exercise 3	Exercise 4
1. D	1. C	1. B	1. B
2. B	2. A	2. D	2. B
3. B	3. B	3. B	3. C
4. A	4. D	4. C	4. A
5. A	5. B	5. C	5. A
6. B	6. D	6. C	6. A
7. A	7. C	7. D	7. B
8. C	8. C	8. D	8. B
9. A	9. C	9. C	9. B
10. A	10. D	10. C	10. C

Answer Expnations

Exercise 1

1. (D) This sentence needs a subject and verb. The verb must be in the present (can predict) because the sentence is a general statement of fact.
2. (B) This is an example of reversed order of subject and verb for emphasis. Remember that not until.....did..... commonly go together. It means that plant breeding did not become a scientific discipline until the nineteenth century.
3. (B) This is a noun and prepositional phrase. It is necessary to use the word the two times because the sentence is referring to two specific items; the area and the brain.
4. (A) This phrase describes the light bulb with a noun plus prepositional phrase, a source of cheap electrical light.
5. (A) This sentence begins with a word as part of the subject of the sentence. The complete subject of the sentence is what we know about babies' feelings. The main verb is the word is.
6. (B) This sentence begins with an infinitive, to create. You could also say, in order to create.
7. (A) This is a comparison question. The weight of the dogs is compared to a measure of 100 pounds.
8. (C) This is a use of the non-referential, or expletive, there. There is followed by are to agree with the noun countries.
9. (A) The word or connects the words in and near. The meaning of the sentence is that the population might live either in cities or near cities.
10. (A) The prepositional phrase on animal life spans describes the data. The word animal describes the kind of life span. The words life span mean the length of time that a person or animal lives.

Exercise 2

1. (C) This sentence needs the noun completion to complete the prepositional phrase. Answer B is incorrect because the word of is incorrect and because the word the must come before the noun.
2. (A) This sentence needs a simple subject, not a phrase.
3. (B) The answer to this sentence must be a verb phrase with a verb in the present tense. Answers A and D are in the passive voice and answer C has two verbs so it does not combine with the rest of the sentence.
4. (D) This sentence uses the word not to begin a contrasting phrase.
5. (B) This sentence needs a plural present tense verb to go with the noun lasers.
6. (D) The word unlike shows a contrast between a common nuclear reaction and cold fusion.
7. (C) The word before is the correct time phrase. The word since is used to name the beginning of a time duration and the word for introduces a phrase of duration. The word ahead would be correct with the word of.
8. (C) This sentence needs a verb in the present perfect tense because of the phrase since the late nineteenth century. It must begin with have because of the plural noun ways.
9. (C) The word have is necessary in this sentence because the verb is in the present perfect tense, have become. Answer D is not correct because the verb is singular.
10. (D) This verb must be negative or use a modal because of the word anything. The answer cannot be answer C because if you use have then you must use the past participle form, meant.

Exercise 3

1. (B) The noun substance should be plural (substances) because it is in the phrase one of the best substances.
2. (D) This is a parallel construction sentence. The word build must be building to match heating and cooking.
3. (B) The noun indicator is incorrect. It should be a passive verb from: indicated.
4. (C) The word that should be those because it must be plural, referring to farms.
5. (C) The word recognize is a verb. In this sentence a noun is needed: recognition.
6. (C) This is a comparative sentence. The phrase much windly is incorrect. It should be more windy.
7. (D) This is a parallel construction sentence. Even though the three words in the series are all nouns, the word chemistry is a noun that describes a science. The other words are names of people. In this sentence you need a noun for the name for a person: chemist.
8. (D) The correct word should be likes because it must agree with the singular noun, animal.
9. (C) These two words are reversed. The correct answer is above which it becomes a gas. In this sentence, the word which refers to threshold temperature. The word threshold here means the point which produces a new response. Another way to say this sentence would be, At a certain high temperature, every liquid becomes a gas.
10. (C) This is an incorrect article. The correct word here is a, not the because the description a thin green crust is the definition of any patina.

Exercise 4

1. (B) This is an incorrect word form. The word looking should be looks. External looks refers to what people look like (hair color, eye color, tall, short, etc.).
2. (B) This is a parallel construction sentence. The correct word should be weight, the noun form. You could also classify this sentence as unnecessary word since the sentence is correct without the word to.
3. (C) This is an incorrect word form. The correct word should be classification, the noun form ; indicated
4. (A) The word "be" should be used since the sentence is in passive voice.
5. (A) "Having" should be replaced by "have".
6. (A) "Has" should be replaced by "have" since the word "universities" is in plural.
7. (B) The infinitive form ("to meet") should be used instead of a gerund ("meeting") after the word required.
8. (B) The word "walk" should be used after the auxiliary "can".
9. (B) The word "confined" means restricted. Roosevelt was restricted; he didn't restrict. Thus, passive form should be used- in this case, "was confined".
10. (C) The word "become" should be used since the past tense has been defined already by the word "did".

Exercise 5

Directions: Choose the one underlined portion of each sentence that must be changed in order for the sentence to be correct. If the sentence is already correct, mark (E) in the answer sheet.

1. What (A) a strong defense is important to any country (B), it cannot be more important (C) than the livelihood of its (D) citizens

2. "Order is Heaven's (A) first law," made by (B) the poet Alexander Pope (C), is painted on the (D) ceiling of the Library of Congress in Washington, D.C.

3. As a result (A) of the Women's Movement, women now holds (B) positions that were once restricted (C) to men. (D)

4. Whether or not (A) a divorced person (B) is entitled to share of (C) his or her spouse's pension has to be decided (D) by the court.

5. Some people believe (A) that printing does as much harm like (B) good, since it brings out (C) falsehood as much as (D) truth.

6. Comets can burst into (A) fragments that (B) fly upon (C) in fiery orbits of their (D) own.

7. If the information in a report does (A) not make sense, it (B) may be necessary to check (C) the statistical. (D)

8. Toledo, locating (A) in the (B) center of Spain, is encircled (C) by the (D) Tagus River.

9. In (A) some cultures, openness and directness seem (B) rude, childish (C), and destructive (D) naïve.

10. Surgical (A) apparatus has to (B) be capable of (C) great precise. (D)

11. Each chapter contains (A) a few appendix (B), which (C) give additional details as (D) supplements to the text.

12. The dove nurtured her young (A) until them (B) were old enough (C) to hunt for themselves. (D)

13. When a person from a contact culture moves in closer (A), a person from a noncontact (B) culture may feel the needy (C) to back off. (D)

14. As they grow older, children (A) in many cultures taught (B) not to (C) rely on their (D) parents.

15. Too many (A) polished (B) rice in one's diet could cause (C) beriberi, a (D) painful nerve disease.

16. Drivers have the responsibility not endangering (A) the lives (B) of people and of (C) animals on (D) the road.

17. The cabin is certainly (A) not luxuriously (B), but it (C) is very practical (D) and comfortable.

18. Jogging nor (A) dieting (B) carried (C) to extremes (D), can be harmful.

19. The letter that (A) was sent (B) by special delivery (C) must be importance. (D)

20. What (A) happens during a person's formulate (B) years may affect (C) the rest of that (D) person's life.

21. The gerund (A) in English is normally formed (B) by adding "ing" to (C) the basically (D) form of the verb.
22. The camera must be focused (A) good (B), otherwise (C) the picture will be blurred (D).
23. People tend to (A) become irritate (B) and short-tempered (C) whenever they get overtired (D).
24. A mule is a (A) animal that (B) is neither a horse nor a donkey (C), but (D) a combination of the two.
25. People living (A) in cities are (B) often sophisticated (C) than people in rural areas (D).
26. Disneyworld was built (A) on 27,400 acres (B) of in part (C) swamp land in central (D) Florida.
27. Soaring (A) medicinally (B) costs have a direct (C) influence on the cost of other merchandise (D).
28. In addition to save (A) on gas (B), the modern car is designed (C) to save on (D) maintenance and repair expenses.
29. Edward Hall, a professor of anthropology, first commented on (A) people's strong feelings (B) about (C) personnel (D) space.
30. Education (A) trains (B) a student to see things as it is (C), to disentangle a skein (D) of thought.

Exercise 6

Directions: Choose the one word or phrase that best complete it sentence.

1. Even though woodpeckers _____ as nuisance to many people, they are actually helpful, since they feed on harmful insects.
   A) are seen B) which are seen C) being seen D) to be seen
2. The first clock made nearly a thousand years ago, had neither a face nor hands, _____ that rang each hour.
   A) it had bells B) rather than bells C) though bells D) but it had bells
3. _____ on the floor of the ocean is a big farming industry.
   A) Oysters raising B) Oysters are raised C) The raising of oysters D) The oysters raised
4. A barbershop _____ a red and white striped pole
   A) what symbolizes B) is symbolizes by C) is symbolized to D) was symbolized
5. _____ as beasts of burden by the Indians in the Andes Mountains.
   A) Using Llamas B) Llamas are used C) Llamas use D) There are Llamas
6. The moon, _____ no air around it, grows extremely hot in the daytime and extremely cold at night.
   A) which has B) has C) having had D) what has
7. Even though they are not liquid, cottage cheese, sour cream, and yogurt are sold _____ liquid measurements.
   A) to B) for C) over D) by
8. To plant rice, farmers, _____ set young plants in the mud.
   A) they wade with bare feet in the water
   B) water wading in their bare feet
   C) wading in the water in their bare feet,
   D) whose bare feet wading in the water
9. _____ farmers cut holes in the bark of maple trees.
   A) Maple syrup is collected
   B) To collect maple syrup
   C) The collection of maple syrup
   D) When collect maple syrup
10. The boll weevil, an insect _____ cotton plants, is native to Central America.
    A) destroys B) destroy C) has destroyed D) that destroys

11. ____ humans, toads have tongues fastened at the front of their mouths, which allow them to catch insects.
A) Not the same B) Unlike C) Except for D) Dislike

12. ____ on a hot fire is a delicacy in many parts of the world.
A) Lamb roasted B) Roasted C) Lambs roast D) Lambs

13. ____ determines a good meal varies from country to country.
A) which B) Why C) What D) How

14. ____ the pecan is the second most popular nut in the United States.
A) The rich food B) Food is rich C) To be rich D) A rich food,

15. More ivory is obtained from elephants in Africa _____ elephants in Asia
A) rather than B) more than C) than from D) as well as

16. Deep in to Rio Bee area of Mexico's Yucatan Peninsula, _____
A) does a 1,250-year-old pyramid lie B) a 1,250-year-old pyramid lie
C) lies a 1,250-year-old pyramid D) is a 1,250-year-old pyramid lying

17. The architecture and pottery uncovered in _____ revealed Middle Eastern cultural relationships.
A) this area has B) the areas has C) area have D) this area have

18. The Pacific Crest Trail is America's _____.
A) longest footpath B) the long footpath
C) footpath the longest one D) the longest footpath

19. ____ almost every major city in the world.
A) Air pollution that now afflicts
B) Not only does air pollution now afflict
C) Air pollution now afflicts
D) Air pollution what now afflicts

20. Today, "carpet" refers to floor coverings that reach from wall to wall, ____ "rug" refers to a piece of material that covers only one section of the floor.
A) therefore B) whereas C) in as much as D) among

21. The triple function of Bodian Castle's moat was to be defensive, decorative, and _____.
A) to double the impression of impregnability
B) to be double the impression of impregnability
C) double the impression of impregnability
D) for doubling the impression of impregnability

22. ____ is that a chicken stands up to lay its eggs.
A) Many people don't realize
B) What many people don't realize
C) It is that many people don't realize
D) Because many people don't realize

23. The tiger heard the splashing, rolled into ambush position, and crouched down in the grass _____.
A) readied itself to attack
B) made itself ready for the attack
C) to ready itself and attacked
D) to ready itself for the attack

24. _____ before the stork chick moves even six inches in the nest.
A) Just over five months is
B) It takes just over five months
C) When just five months are over
D) That it takes just over five months

25. Thor Heyerdahl _____ from Peru in a frail balsa craft, attempted to prove his theory of South American migration to Polynesia.
A) set sail B) has set sail C) he set sail D) setting sail

26. Napoleon III eventually landed in England _____.
A) not only as a dethroned exile
B) but only as a dethroned exile
C) but a dethroned exile
D) but being only a dethroned exile

27. Jacob Lawrence is considered by many critics _____.
A) to be the foremost African-American artist
B) the foremost African-American artist is
C) foremast African-American artist
D) is the foremost African-American artist

28. Braille is a system of raised dots developed for blind people _____ with their fingers
A) they read B) who read C) who reading D) read

29. _____ of the seals, the monk seals are considered to be the most primitive.
A) The 1 species B) 1 species are C) There are 1 species D) Of the 1 species

30. Traditional sailors _____ many of the same dangers as their predecessors
A) face is B) is facing C) face D) are faced

Exercise 7

Directions : Choose the best alternative to complete the sentence CORRECTLY.

1. The principal reason for our failure was quite apparent to those whom we had brought into the venture.
(A) to those whom we had brought
(B) to them whom we had brought
(C) to the ones whom we had brought
(D) to those who we had brought
(E) to those who we had brought

2. Although he was the most friendly of all present and different from the others, he hadn't hardly any friends except me.
(A) different from the others, he hadn't hardly any friends except me
(B) different than the others, he had hardly any friends except me.
(C) different from the others, he had hardly any friends except I
(D) different than the others, he hadn't hardly any friends except I
(E) different from the others, he hardly had any friends except I

3. It was us who had left before he arrived.
(A) us who had left before he arrived.
(B) we who had left before he arrived.
(C) we who had went before he arrived
(D) us who had went before he arrived
(E) we who had left before the time he had arrived.

4. He is sort of person who I feel would be capable of making these kind of statements.
(A) sort of person who I feel would be capable of making these kind of
(B) sort of a person who I feel would be capable of making these kind of
(C) sort of person who I feel would be capable of making these kinds of
(D) sort of person whom I feel would be capable of making these kinds of
(E) sort of person whom I feel would be capable of making this kind of

5. Due to the continual rain, a smaller number of spectators witnessed the game than had been expected.
(A) Due to the continual rain, a smaller number
(B) Due to the continuous rain, a smaller number
(C) Due to the continual rain, a lesser number
(D) Because of the rain that kept falling now and then, a smaller number
(E) Because of the continual rain, a smaller number.

6. Beside me, there were many persons who were altogether aggravated by his manners.
(A) Beside me, there were many persons who were altogether aggravated
(B) Beside me, there were many persons who were altogether
(C) Besides me, there were many persons who were altogether aggravated
(D) Besides me, there were many persons who were altogether irritated.
(E) Beside me, there were many persons who were all together irritated.

7. The owner, who was a kind man, spoke to the boy and he was very rude.
(A) who was a kind man, spoke to the boy and he
(B) was a kind man and he spoke to the boy and he
(C) spoke to the boy kindly and the boy
(D) a kind man, spoke to the boy who
(E) who was kind man spoke to the boy and he

8. Because we cooperated together, we divided up the work on the report which had been assigned.
(A) together, we divided up the work on the report which had been assigned
(B) together, we divided the work on the report which had been assigned.
(C) we divided up the wok on the report which was assigned
(D) we divided the work on the assigned report
(E) we divided up the work on the assigned report.

9. The senator rose up to say, in his opinion, he thought the bill should be referred back to committee.
(A) rose up to say that, in his opinion, he thought the bill should be referred back
(B) rose up to say that he thought the bill should be referred back
(C) rose up to say that he thought the bill should be referred
(D) rose up to say that, in his opinion, the bill should be referred
(E) rose to say that he thought the bill should be referred

10. I don't know as I concur with your decision to try and run for office.
(A) as I concur with your decision to try and
(B) that I concur in your decision to try to
(C) as I concur in your decision to try and
(D) that I concur with your decision to try to
(E) as I concur with your decision to try, to

11. Jones, the president of the union and who is also a member of the community group, will be in charge of the negotiations.
(A) who is also a member of the community group
(B) since he is a member of the community group
(C) a member of the community group
(D) also being a member of the community group
(E) in addition, who is a member of the community group

12. The instructor told the student to hold the club lightly, keeping his eye on the ball and drawing the club back quickly, but too much force should not be used on the downward stroke.
(A) to hold the club lightly, keeping his eye on the ball and drawing the club back quickly, but too much force should not be used
(B) to hold the club lightly, keep his eye on the ball, and drawing the club back quickly, and too much force should not be used
(C) to hold the club lightly, keep his eye on the ball, draw the club back quickly, and not use too much force
(D) to hold the club lightly, keep his eye on the ball, draw the club back quickly and too much force should not be used
(E) he should hold the club lightly, keeping his eye on the ball, drawing the club back quickly, and not using too much force.

13. The horse, ridden by the experienced jockey with the broken leg, had to be destroyed.
(A) horse, ridden by the experienced jockey with the broken leg, had
(B) horse ridden by the experienced jockey with the broken leg had
(C) horse with the broken leg ridden by the experienced, jockey had
(D) horse with the broken leg ridden by the experienced jockey, had
(E) horse with the broken leg, ridden by the experienced jockey, had

14. Our guest let us know that he would be arriving next week in his last letter.
(A) that he would be arriving next week in his last letter
(B) that he was arriving next week in his last letter
(C) that he will arrive next week in his last letter

(D) in his last letter that he would be arriving next week
(E) in his last letter that he was arriving next week

15. Whoever objects to me going to the convention ought to state his position promptly.
(A) Whoever objects to me
(B) Whomever objects to me
(C) Whomever objects to my
(D) Whoever objects to my
(E) Whoever has an objection to me

16. The reason that the number of accidents this year is greater than that of last year is because Americans are now speeding at a higher rate.
(A) is greater than that of last year is because
(B) is greater than last year is because
(C) is greater than last year is that
(D) is greater than that of last year is that
(E) is greater than the number of accidents last year is because

17. Julio found the new job more preferable to the one he had left so he decided to continue on for a while
(A) more preferable to the one he had left so he decided to continue on
(B) preferable to the one he had left so he decided to continue on
(C) more preferable to the one he had left so he decided to continue
(D) preferable to the one he had left so he decided to continue
(E) more preferable than the one he had left so he decided to continue

18. Since we are living in New York for five years, we are reluctant to move to another city.
(A) Since we are living
(B) Being that we are living
(C) Being that we have been
(D) Since we have been living
(E) Since we were living

19. As a child, my parents took me to Chicago to visit my grandfather.
(A) As a child, my parents took me Chicago to visit my grandfather
(B) My parents took me to Chicago to visit my grandfather as a child
(C) My parents took me, as a child, to Chicago to visit my grandfather
(D) A child, my parents took me to Chicago to visit my grandfather
(E) When I was a child, my parents took me to Chicago to visit my grandfather

20. He said that, if he were elected president and that if funds were available, that he would create a national theater.
(A) he were elected president and that if funds were available, that
(B) elected president, and funds were available, that
(C) he were elected president and funds were available, that
(D) he were elected president and funds were available
(E) elected president, and funds were available.

Exercise 8

Directions: Choose the one underlined portion of each sentence that must be changed in order for the sentence to be correct. If the sentence is already correct, mark (E) in the answer sheet.

1. Before the middle (A) of the eighteenth century, there were (B) none (C) public libraries (D) in the United States.
2. The nucleus (A) of an ordinary comet is (B) a mile but (C) two in (D) diameter.
3. George Gershwin believed that (A) music should express (B) the thoughts and feelings of their own time (C) in (D) history.
4. Some senior citizens have to cope with (A) arthritis and other (B) physical difficulties (C) of aged (D) in addition to psychological and social problems.
5. It has been estimated that in a few years (A), twelve percents (B) of Canadians (C) will be senior citizens (D).
6. Many museum exhibits (A) encourage you to investigate further (B) through (C) microscopes. Magnifiers and even telescoping. (D)
7. Workers who repair (A) the road surface (B) wear specially (C) jackets for (D) easy identification.
8. One of the most important (A) discovery of the nineteenth century was (B) a method of using (C) natural gas for cooking and heating. (D)
9. The Netherlands, a country with much of (A) the land lying (B) lower than sea level, have (C) a system of ditches and canals for controlling (D) water.
10. Davy Crockett, a famed (A) American pioneer, was known for (B) his hunting, trapping, tell stories (C), and quick wit. (D)
11. The movement of (A) ocean waves can be compared (B) to the waves caused by (C) the wind in a field or grass (D).
12. Milk, often considered a nearly perfect (A) food, contains (B) fat, (C) sweet, (D) and protein.
13. Only after they themselves (A) become (B) parents, do (C) people realize the difficulties of raised (D) children.
14. Aviators (A), fishing (B), and sailors are among those who (C) rely (D) on weather predictions.
15. Mohandas K. Gandhi, who was called Mahatma, lived a noble life of fasting (A) and poverty (B) in order to work for peaceful (C) and independence (D).
16. Soybean (A), which sometimes (B) grow seven feet tall, have (C) thick, woody (D) stems.
17. When settling (A) the old west in pioneer times (B), American families building (C) their homes from split (D) logs.
18. A Venus Flytrap is a (A) small plant that have (B) leaves that snap (C) together like (D) traps.
19. The last of the Mohicans are (A) a (B) famous book about frontier (C) life by the (D) American author James Fenimore Cooper.
20. The Treaty of Chent, signed in (A) 1814, ends (B) the (C) last (D) war between England and the United States.

Exercise 9

Instruction: *Each sentence is followed by five alternative versions of the underlined portion. Select the best alternative.*

1. In 1997, a 9 – 0 ruling from the Supreme Court in *Reno v. American Civil Liberties Union* surprised some observers as it struck down provisions of the Communications Decency Act; the court ruled that the law violated the freedom of speech provisions of the First Amendment.
   (A) Act; the court ruled that (B) Act, which ruled that (C) Act, with a ruling that
   (D) Act; they ruled that (E) Act and they ruled
2. The purring noise of a cat, although most people think that cats purr because they are content, is actually involuntary and is not directly related with the emotion of the cat.
   (A) The purring noise of a cat, although most people think that cats purr because they are content, is actually involuntary and is not directly related with the emotion of the cat.
   (B) Although most people think that cats purr because they are content, the purring noise of a cat is actually involuntary and is not directly related with the emotion of the cat.
   (C) Although most people think that cats purr because they are content, the purring noise of a cat is actually involuntary and is not directly related to the emotion of the cat.
   (D) The purring noise of a cat, although most people think that cats purr because they are content, is actually involuntary and is not directly related to the emotion of the cat.
   (E) Although most people think that cats are purring because they are content, the purring noise of a cat is actually involuntary and is not directly related with the emotion of the cat.
3. One of the most important choices facing the new administration at this moment is if they should continue to advance contractionary fiscal policy.
   (A) this moment is if they should continue to advance contractionary fiscal policy.
   (B) this present moment is whether it should continue to advance contractionary fiscal policy
   (C) this moment is whether it should continue to advance contractionary fiscal policy
   (D) this moment is whether they should continue to advance contractionary fiscal policy
   (E) this present moment is whether it should continue the advancement of contractionary fiscal policy
4. Dr. Martin A. Tidball, along with colleagues at two universities, are working on uncovering the mysteries of glucose uptake, a discovery of new details about active ATP transport, and a drug to enhance facilitated diffusion.
   (A) are working on uncovering the mysteries of glucose uptake, a discovery of new details about active ATP transport, and a drug to enhance facilitated diffusion
   (B) is working on uncovering the mysteries of glucose uptake, discovering new details about ATP transport, and enhancing facilitated diffusion via a drug
   (C) is working to uncover the mysteries of glucose uptake, discover new details about active ATP transport, and enhancing facilitated diffusion with the help of a drug
   (D) are working hard to uncover the mysteries of glucose uptake, discover new details about active ATP transport, and enhance facilitated diffusion with the help of a drug
   (E) are working on uncovering the mysteries of glucose uptake, discovering new details about ATP transport, and enhancing facilitated diffusion via a drug
5. By the year 2000, *A Tale of Two Cities*, Charles Dickens' gripping book portraying the suffering of the proletariat under the brutal subjugation of the French aristocracy had around 200 million copies in print, making it more than that of almost any other English book ever written.
   (A) book portraying the suffering of the proletariat under the brutal subjugation of the French aristocracy had around 200 million copies in print, making it more than
   (B) book portraying the suffering of the proletariat under the brutal subjugation of the French aristocracy had around 200 million copies in print, which is more than
   (C) book portraying the suffering of the proletariat under the brutal subjugation of the French aristocracy, had around 200 million copies in print, more than
   (D) book portraying the suffering of the proletariat under the brutal subjugation of the French aristocracy, had around 200 million copies in print, making it more than

(E) book portraying the suffering of the proletariat under the brutal subjugation of the French aristocracy had around 200 million copies in print and is more than

6. Many senior citizens are reluctant to go online, it results from not knowing much about computers and being a bit scared of it.
   A. online, it results from not knowing much about computers and being a bit scared of it
   B. online resulting from not knowing much about computers and being a bit scared of it
   C. online for the reason being that they don't know much about computers and are a bit scared of them
   D. online because of knowing little about computers and being scared of it
   E. online because they know little about computers and are a bit scared of them

7. The primary drama of Homer's famed *Iliad* revolves around anger amongst the renowned and wrathful warrior Achilles and Agamemnon, the King of Mycenae and the leader of Achaean army.
   (A) revolves around anger amongst the renowned and wrathful warrior Achilles and Agamemnon, the King of Mycenae and the leader of Achaean army
   (B) revolve in the anger between the renowned and wrathful warrior Achilles and the King of Mycenae and the leader of the Achaean army Agamemnon
   (C) revolves around the anger between Achilles, a renowned and wrathful warrior, and Agamemnon, king of Mycenae and the leader of the Achaean army
   (D) revolves in the anger between Achilles, a renowned and wrathful warrior, and Agamemnon, king of Mycenae and the leader of the Achaean army
   (E) revolve around Achilles, a renowned and wrathful warrior, and his anger toward Agamemnon, king of Mycenae and the leader of the Achaean army

8. Our interscholastic athletic schedules were made too recklessly, without sufficient planning behind it.
   A. too recklessly, without sufficient planning behind it
   B. too reckless, without sufficient planning behind it
   C. too recklessly, without sufficient planning behind them
   D. too reckless, and there is not sufficient planning behind them
   E. too recklessly, and there is not sufficient planning behind it

9. Although the speakers never having reached their audience, they couldn't express them- selves plainly or in a down-to-earth manner.
   (A) Although the speakers never having reached their audience, they couldn't
   (B) The speakers never reached their audience, they couldn't
   (C) Never having reached their audience, the speakers couldn't
   (D) The speakers never reached their audience; however, they couldn't
   (E) The speakers never reached their audience because they couldn't

10. The Battle of Bull Run, which took place on July 21, 1861 near the town of Manassas, an important event in American history in that this historic event was the first major ground battle of the Civil War, which resulted in over 500,000 deaths and a turning of the tide against the practice of slavery.
   A. an important event in American history in that this historic event was the first major ground battle of the Civil War, which resulted in over 500,000 deaths and a turning of the tide against the practice of slavery.
   B. an important event in American history marking the first major ground battle of the Civil War, which resulted in the death of over 500,000 Americans and the abolition of slavery.
   C. was an important event in American history as it had marked the first major ground battle of the Civil War, which resulted in the death of over 500,000 Americans and the abolition of slavery.
   D. is an important event in American history as it marked the first major ground battle of the Civil War, which resulted in the death of over 500,000 Americans and the abolition of slavery.
   E. is an important event in American history due to it marking the first major ground battle of the Civil War, resulting in the death of over 500,000 Americans and the abolition of slavery.

11. Dede and Michelle were among the players chosen for the all-county field hockey team, their performance in this having been exceptional.
(A) team, their performance in this having been exceptional
(B) team; they have performed exceptionally in this
(C) team, for they have performed exception- ally in this
(D) team, for their performance has been exceptional
(E) team; their performance having been exceptional

12. Some of the trees looked on the verge of dying, or as if already they had died.
(A) as if already they had died
(B) as though they had already died
(C) whether they had died already
(D) if they had already
(E) like they had died already

13. The film's special effects and gripping story give audiences a thrill.
(A) give audiences a thrill
(B) thrills the people who are watching
(C) gives people thrills in watching it
(D) give thrills in the watching of it to the audience
(E) give a thrill to the people in the audience watching it

14. Inside Margaret Jackson's home were an art studio with a pottery kiln, high-tech stainless steel appliances, and there was a swimming pool lined with Italian marble.
A. there was a swimming pool lined with Italian marble
B. the swimming pool was lined with Italian marble
C. lined with Italian marble was a swimming pool
D. a swimming pool lined with Italian marble
E. a swimming pool with Italian marble was there

15. Mr. Roch was not the first math teacher to entertain and inspire his students, but he has been the first who turned math class into a party.
A. has been the first who turned
B. was the first to turn
C. was the first having turned
D. had been the first who turned
E. having been the first to turn

16. The United Auto Workers Union, which represented all the workers at the Milk Run plant, demanded a higher wage for them.
(A) Union, which represented all the workers at the Milk Run plant, demanded
(B) Union which represented all the workers at the Milk Run plant, demanded
(C) Union which represented all of the workers at the Milk Run plant, demanded
(D) Union which represented all of the workers at the Milk Run plant, demanded
(E) Union which will have represented all the workers at the Milk Run plant, demanded

17. John Lenon Jr. looks like his father, talks like his father and walks like he owned five cattle ranches.
(A) looks like his father and walks like he owned five cattle ranches.
(B) looks and talks like his father and walks as if he owned five cattle ranches.
(C) looks like his father, talks like his father and walks as he owned five cattle ranches.
(D) looks and talks like his father and walks like he owned five cattle ranches.
(E) looks like his father, talks like his father and walks like he owning five cattle ranches.

18. It's as clear as crystal, Sabrina and Mark are the proud possessors of prodigious progeny.
(A) It's as clear as crystal, Sabrina and Mark are the proud possessors of prodigious progeny.
(B) It is quite evident that Sabrina and Mark are the proud possessors of prodigious progeny.
(C) It's as clear as crystal; Sabrina and Mark have prodigious progeny.
(D) It's quite evident that Sabrina and Mark have wonderful children.
(E) It's as clear as crystal, Sabrina and Mark have wonderful children.

19. The prophet announced quite boldly, "It is him whom all the sages adore."
(A) "It is him whom all the sages adore." (B) "It is he whom all the sages adore."
(C) "It is him who all the sages adore." (D) "It is he who all the sages adore."
(E) "It is he whom all the sages had adore."

20. Neither the personnel manager nor the director of sales could determine the cause for the breakdown of morale in the department of product promotion.
(A) Neither the personnel manager nor the director of sales could determine
(B) Either the personnel manager nor the director of sates couldn't determine
(C) Either the personnel manager nor the director of sales could not determine
(D) Neither the personnel manager or the director of sales could determine
(E) Either the personnel manager or the director of sates could determine

Exercise 10

Instruction: *Identify the sentence(s) that is/are showing the CORRECT usage of the underlined words.*

1. (i) To ancient people, there could be a deity in everyday objects like trees and rocks.
(ii) It is not wise to deitize a human being, they are not gods!
(iii) Not that our deit mortals ate much on this occasion.
a. i only b. ii only c. i and ii only d. i and iii only e. i, ii, and iii

2. i) The political fermentation produced new leadership.
ii) The Middle East has been fermenting for a quite a long time.
iii) The milk has defermented.
a. i and ii b. ii and iii c. i and iii d. i, ii and iii e. none

3. (i) Tart, grated apples give this moist carrot cake a delicious twist.
(ii) Moistened cotton swab to avoid any contamination.
(iii) My hands get wet from the moisture of the friction.
a. ii only b. iii only c. i and iii only d. ii and iii only e. i, ii, and iii

4. i) His pertinaciousness continued to the point where it was no longer appropriate.
ii) I object to something which is conceited and small-minded; but which also,has that kind of impertinacity which always belongs to lunatics.
iii) Robin is the most vocal and pertinacious of all the critics.
a. ii only b. ii and iii c. i and iii d. i, ii and iii e. none

5. i I would advise you to assert yourself when dealing with the arrogant woman.
ii. Some people find assertiveness a quality verging on arrogance.
iii. Assertion is a rare virtue.
a. i only b. ii only c. iii only d. i and ii e. i and iii

6. i) Husband your energy for the ascent to the summit.
ii) Many of Yunnan nomadic tribes or those engaged in husbandry, in particular, relied on agricultural products from Sichuan.
iii) Sourav assumed all the husbandly duties right after the marriage.
a. i and ii b. ii and iii c. i and iii d. i, ii and iii e. none

7. (i) She smiled, her eyes bright and merry.
(ii) The joke that the teacher told, left the whole class in merry.
(iii) His intention was to mirth but his jokes were so bad that they simply bored everyone to tears.
a. i only b. ii only c. i and ii only d. i and iii only e. i, ii, and iii

8. i. It will be a seasoned time for a discussion on the preparation for your test.
ii. She seasoned her criticism.
iii. She always looked forward to the Pohela Falgun seasoning.
a. i and iii b. ii only c. iii only d. ii and iii e. i and ii

9. i) The faster a jet plane goes the greater its propulsive efficiency.
ii) The rhythmical energy and propulsiveness thus imparted to the music of the merrymaking is heightened by the dance.
iii) The desire to pursue MBA from IBA propelled me to sacrifice my career.
a. i only b. ii and iii c. i and iii d. i, ii and iii e. none

10. i) Our words are distortable things--as in a crooked mirror held up to nature.
ii) You must be a full pledge liar and distorter of truth.
iii) His judgment was undistorted by emotion.
a. i and ii b. i and iii c. ii and iii d. i, ii and iii e. iii only

Instruction: *Identify the sentence(s) that is/are showing the INCORRECT usage of the underlined words.*

11. i. You must stand firm despite the adversities.
ii. Your muscles will firm when you exercise regularly.
iii. His firmness carried him through the battle.
a. i and ii b. ii and iii c. ii only d. I, ii and iii e. none of these

12. i. Every detail has been thought off.
ii. The scientist must stop to observe and start to think over.
iii. Unthinking innocence involves knowledge of good and evil, but the knowledge is not deep enough.
a. i only b. ii only c. I and iii d. ii and iii e. I, ii and iii

13. i. Tourists rolled in from the neighboring countryside.
ii. Ms. Tania tried her level best to roll off the loan agreement.
iii. Mist rolled out from the sea.
a. ii and iii b. i and iii c. i and ii d. iii only e. ii only

14. i. It is the plaintiffs who misapprehend the law, not the district court.
ii. There is common misapprehension that the magnitude scale is itself some kind of instrument or apparatus.
iii. Even those misapprehensive of reading something creepy usually found they couldn't put them down.
a. i and ii b. i and iii c. ii and iii d. iii only e. ii only

15. i. Even if you learn that a stock has no actual value, the certificate itself may have value as a collectible.
ii. The witness remained collected throughout the cross-examination.
iii. He trusted her clear collection that she would do what she said.
a. i and ii b. i and iii c. ii and iii d. iii only e. none of these

16. i. He is adamantine in his refusal to change his mind.
ii. His adamancy in his refusal to change his mind astounded all of us.
iii. The adamance or their pursuit is praiseworthy.
a. i and ii b. i and iii c. ii and iii d. iii only e. none of these

17. i. We found an unhopeless way of attacking the problem.
ii. Only an avid hoper could expect the team to win now.
iii. It revived their hopefulness of winning the pennant.
a. I only b. ii only c. iii only d. ii and iii e. i and ii

18. i. The government deferred to the military pressure.
ii. Canadians, in particular, are conventionally regarded as being more deferential toward authority than Americans.
iii. As there is an implied agreement, on the part of the servant, that he will faithfully serve and be deferant of the interest of his employer.

a. I only b. ii only c. ii and iii d. iii only e. i and iii

19. i. He accepted their problems with calmliness and ire.
ii. Dane found it very difficult to calmly eat his dinner.
iii. The patient must be calmed before the operation.

a. i and ii b. i and iii c. ii and iii d. ii only e. i only

20. i. People are by turns obsequious, angry, and disingenuous.
ii. I find his obsequity repellent.
iii. All his actions were in obsequy to the general plan.

a. I and ii b. ii only c. iii only d. ii and iii e. i and iii

Answer Keys

Exercise 5

1. A	2. B	3. B	4. C	5. B	6. C	7. D	8. A	9. D	10. D
11.B	12. B	13. C	14. B	15.A	16.A	17.B	18.A	19.D	20.B
21.D	22.B	23.B	24.A	25.C	26.C	27.B	28.A	29.D	30.C

Exercise 6

1.A	2.D	3.C	4.B	5.B	6.A	7.D	8.C	9.B	10.D
11.B	12.A	13.C	14.D	15.C	16.C	17.D	18.A	19.C	20.B
21.A	22.B	23.D	24.B	25.D	26.B	27.A	28.B	29.D	30.C

Exercise 7

1.A	2.E	3.B	4.C	5.B	6.D	7.D	8.D	9.E	10.D
11.C	12.C	13.E	14.D	15.D	16.D	17.D	18.D	19.E	20.D

Exercise 8

1.C	2.C	3.C	4.D	5.B	6.D	7.C	8.A	9.C	10.C
11.D	12.A	13.D	14.B	15.C	16.C	17.C	18.B	19.A	20.B

Exercise 9

1.A	2.C	3.C	4.B	5.C	6.E	7.C	8.C	9.E	10.D
11.D	12.B	13.A	14.D	15.B	16.A	17.B	18.D	19.B	20.A

Exercise 10

1.A	2.A	3.E	4.C	5.D	6.D	7.A	8.B	9.D	10.B
11.E	12.A	13.A	14.D	15.D	16.E	17.A	18.D	19.E	20.D

IBA ভর্তি পরীক্ষার Reading Comprehension অত্যন্ত গুরুত্বপূর্ণ একটি part. কমপক্ষে পাঁচটি question এই বিষয়ের উপর থাকবে। তবে শুধু কলেজে আমাদেরকে Comprehension পড়ে question এর answer লিখতে হত। এক্ষেত্রে আমরা হয়তো একটু সুবিধা পাব। আমাদেরকে উত্তর লেখার বদলে MCQ পদ্ধতিতে ও Answer করতে হবে। তবে BBA '94-95' এর পরীক্ষায় Written English section এ comprehension ছিল। তবে সেটা নিয়ে খুব একটা চিন্তা করার কিছু নেই। SSC এবং HSC পরীক্ষার practice ই ওটার জন্য যথেষ্ট। শুধুমাত্র লেখার standard ভাল রাখতে হবে। যাই হোক, আমরা এখন MCQ পদ্ধতির Comprehension নিয়ে আলোচনা করব।

TYPES OF READING COMPREHENSION QUESTION: মূলতঃ ৪ ধরণের Reading Comprehension Questions করা হয়ে থাকে।

1. MAIN IDEA QUESTIONS:

এ ধরণের প্রশ্নগুলোতে প্রদত্ত passage এর মূল নিবন্ধ (content) বা মূল ভাব (Theme) বের করতে বলা হয়। Questions গুলো থাকে এভাবে-

Which of the following is the main idea of the passage?
Which of the following best describes the theme/content of the passage?
The passage is primarily concerned with -----
The author's primary purpose in this passage is to ---

HOW TO SOLVE IT: যখন main idea বের করতে হবে, be sure to check the opening and summary sentences of the passage. প্রথম ও শেষ sentence পড়লেই যে main idea পাওয়া যাবে, এমন কোন নিশ্চয়তা নেই। Main idea টি stated না হয়ে implied ও হতে পারে। If you can't find the main idea, ask yourself three questions –

I) Who or what is this passage about?

II) What aspect of this subject is the author talking about?
(অর্থাৎ, বিষয়টির কোন দৃষ্টিকোণ লেখক নিয়েচনা করছেন?)

III) What is the author trying to get across about this aspect of the subject? (Subject এর কোন দৃষ্টিকোণটিকে বেশি গুরুত্ব দেয়া হয়েছে বের করুন। Either the subject is doing something or something is being done to it.)

2) SPECIFIC DETAIL QUESTIONS:

Passage- এ নির্দিষ্টভাবে বর্ণনা করা হয়েছে এমন বিষয়বস্তু নিয়ে এধরণের question করা হয়। Questions এর forms হতে পারে এরকম-

According to the author ----
The passage supplies information that would answer which of the following questions?
The author states which of the following?
Which of the following statement is best supported by the passage?

HOW TO SOLVE IT : এ ধরণের questions answer করার সময় আমাদের main attention থাকতে হবে passage এ কি কি জিনিস explicitly (স্পষ্টভাবে) বলা আছে তা বের করার উপর। কখনও এমন কোন বিষয়ের উপর গুরুত্ব দেয়া যাবে না যেটা আপনি সত্যি বলে জানেন কিন্তু passage এ যার উল্লেখ নেই।

এ ধরণের Question এ প্রায়ই একটা particular phrase অথবা line সম্বন্ধে question করা হয়। In such cases, use the following techniques:

i) Look for key words (nouns or verbs) in the answer choices.

ii) Run your eyes down the passage, looking for those key words or their synonyms. (This is SCANNING. It is what you do when you look up someone's number in the phone directory)

iii) When you find a key word or its synonym, reread the sentence to make sure that the test makers haven't used the original wording to mislead (বিভ্রান্ত) you.

3) INFERENCE QUESTIONS: এ ধরণের questions এ passage এ specifically বলা নেই অথচ আপনি logically conclude করতে পারেন এরকম বক্তব্য দেয়া থাকে। অর্থাৎ, এখানে answer টি stated নয়, Implied Questions গুলো করা হতে পারে এভাবে -

It can be inferred from the passage that .....
The passage suggests that .....
The author implies that .....
Which of the following statements about ..... can be inferred from the passage?

HOW TO SOLVE IT: Inference questions এ আপনার নিজস্ব judgment প্রয়োজন। You must not take anything directly stated by the author as an inference. বরং আপনি কিছু clues খুঁজে বের করার চেষ্টা করবেন। আপনি আপনার *answer* হিসেবে এমন একটা *statement* খোঁজার চেষ্টা করবেন যেটা প্রশ্নকর্তা কর্তৃক প্রদত্ত *information* এর একটি *logical development.*

4) TONE QUESTIONS: এ ধরণের questions এ author এর মনোভাব বা তার লেখার সুর অথবা কোন বিষয়ের প্রতি তার দৃষ্টিভঙ্গী প্রসঙ্গে জানতে চাওয়া হয়। Questions করা হতে পারে এভাবে-

Which of the following best describes the author's tone in the passage?
The author's attitude towards the problem can best be described as....
The author regards the idea that.....
The author's tone in the passage is that of a person attempting to.....

HOW TO SOLVE IT: Tone/Attitude questions solve করার সময় লক্ষ্য করুন লেখক কি ধরণের connotations passage এ ব্যবহার করেছেন। positive connotation নাকি fetid, ruffled, stingy প্রভৃতি negative connotations. এগুলো ভালভাবে observe করলেই আপনি বুঝতে পারবেন লেখকের mood কি – cheerful, frustrated, critical, angry, gloomy etc.

5) WORD/PHRASE (VOCABULARY) QUESTIONS: এই ধরণের questions এ passage এ ব্যবহৃত কোন word বা phrase এর meaning determine করতে বলা হয়। Questions বিভিন্নভাবে থাকতে পারে-

The term ..... refers to .....
The phrase ..... is used in the passage to mean that .....
The author uses the phrase ..... to describe .....
As it is used in the passage, the term ..... can be best described as .....

HOW TO SOLVE IT: এ ধরণের questions solve করতে হলে প্রথমেই general vocabulary বাড়াতে হবে। বেশিরভাগ ক্ষেত্রেই meaning জানা না থাকলেও প্রদত্ত word বা phrase এর অর্থ passage এর context থেকে বোঝা যায়। Though the purpose of this kind of question is to determine how well you can extract meaning from the text, not how extensive your vocabulary is; তারপরও vocabulary ভালো হলে এক্ষেত্রে আপনার লাভ বাড়বে বৈ কমবে না।

Practice Exercises

Passage 1

Though Paul Gauguin, himself, recognized both the "sensitive" and the "savage" as two opposing sides of his character, in his career as an artist he thought of himself as "the savage." He tended to disregard convention and abandon social responsibilities. He felt that only by renouncing the ordinary could he be the artist he wanted to be. He justified his quarreling with friends, his leaving his wife and children, and his promiscuity because he believed it to be the only way his art could be liberated. In his attitude can be found seeds for art in the coming century: the art of the primitive, of symbol, and of imagination. He wanted to escape from merely observing naturalism to using abstract color and form as conveyors of feeling. He wanted to free painting from all restrictions. He began to carry his art deep into the realm of myth and dream with the idea that mystery and enigma were essential to art.

1. Which of the following is the main of this passage?
(A) the "savage" side of Gauguin
(B) myth and reality in Gauguin's paintings
(C) Paul Gauguin's life
(D) the complex connection between attitude and art

2. The word "renouncing" in line 3 is closest in meaning to which of the following?
(A) maintaining (B) disowning
(C) rejecting (D) removing

3. As used in this passage, the word "ordinary" in line 4 means
(A) ordeal (B) unimportant
(C) impressive (D) commonplace

4. According to the passage, Gauguin
(A) divorced his wife.
(B) lived alone (C) liberated his family
(D) disregarded society's rules

5. According to the passage, Gauguin
(A) Gauguin justified his behavior.
(B) Gauguin quarreled with his friends.
(C) Gauguin left his family.
(D) Gauguin promised to come back.

6. As used in this passage, what is the meaning of "seeds" in line 6?
(A) origins (B) grains
(C) pits (D) escorts

7. It can be inferred from the passage that the art of the coming century would be more
(A) colorful (B) naturalistic
(C) symbolic (D) complex

8. The word "merely" in line 7 could best be replaced by which of the following?
(A) quietly (B) only
(C) reluctantly (D) carefully

9. From the passage we can infer that Gauguin wanted to
(A) paint in a new way
(B) restrict forms of art
(C) make new friends
(D) liberate society

10. Which of the following is most similar to the meaning of "conveyors" in lines 8-9?
(A) recorders (B) carriers
(C) beams (D) standards

11. What is the author's purpose in this passage?
(A) to compare two sides of Gauguin's character
(B) to describe Gauguin's escape from social responsibilities
(C) to introduce the beginning of modern at
(D) to discuss the "savage" in Gauguin's art

12. The best synonym for "savage" in this passage is
(A) cruel (B) crude
(C) fierce (D) untamed

13. According to the passage, which of the following did Gauguin consider essential to art?
(A) unexplainable phenomena
(B) careful observation
(C) political liberation
(D) savage tendencies

Passage 2

A volcano is an aperture in the earth's crust that allows gases and solid fragments to be discharged. The word "volcano" refers to both the vent and conical mountain that is built up by the ejected material. At the apex of the mountain there is usually a crater around the vent. Belts of volcanoes can be found along the crest of the mid-ocean ridge system. They are also found at places on earth's crust where plate boundaries are converging, such as the areas surrounding the Pacific Ocean and along the Mediterranean Sea.

Volcanic eruptions take the form of one or more of the following phases: Hawaiian, Strombolian, Vulcanian, and Peleean. The Hawaiian phase consists of relatively phase; there is a continuous but mild discharge of viscous lava during recurring explosions that produce luminous clouds. The Vulcanian phase is a more explosive one, in this masses of solid and liquid rock erupt into the air and clouds of vapor form over the crater. The Peleean is the most violent phase, emitting "clouds" of fine ash, hot gas-charged fragments of lava, and superheated steam that travel downhill at great speed and can annihilate all life in their path. In this phase, the whole mountain might even be blown apart. These eruptions may also be accompanied by torrential rains.

14. With what topic is this passage primarily concerned?
(A) causes of volcanic activity
(B) types of eruptions
(C) dangerous aspects of volcanoes
(D) examples of famous eruptions

15. The word "aperture" in line 1 refers to which of the following?
(A) a mountain (B) a crater
(C) a force (D) an operating

16. The word "discharged" in line 2 could best be replaced by which of the following words?
(A) emitted (B) rejected
(C) withheld (D) detached

17. The author implies that volcanoes
(A) are isolated occurrences
(B) are active in the Pacific Ocean
(C) are often spread out over one zone
(D) erupt under the sea

18. As used in line 2, the word "conical" refers to which of the following?
(A) the size (B) the area
(C) the shape (D) the type

19. The word "ridge" in line 4 could best be replaced with the word
(A) crust (B) crest
(C) crater (D) crack

20. The word "converging" in lines 5 refers to
(A) rising above (B) giving away
(C) sinking under (D) coming together

21. A volcanic eruption that consists of a few explosions with a flow of lava would most likely be which of the following phases?
(A) Hawaiian (B) Strombolian
(C) Vulcanian (D) Peleean

22. Where in the passage does the author infer the causes of volcanoes?
(A) lines 1-3 (B) lines 4-6
(C) lines 7-10 (D) lines 11-14

23. The word "their" in line 13 refers to which of the following?
(A) clouds (B) lava
(C) fragments (D) steam

24. Which of the following most closely represents the organization of this passage?
(A) a cause and its result
(B) a comparison of types
(C) a discussion in order of importance
(D) a definition and a description

25. The word "torrential" in line 14 refers to which of the following types of rain?
(A) sporadic and misty
(B) a sprinkle with particles of dirt
(C) a heavy downpour
(D) seasonal

Passage 3

By adopting a few simple techniques, parents who read to their children can substantially increase their children's language development. It's surprising, but true. How parents talk to their children makes a big difference in their children's language development. If a parent encourages the child to actively respond to what the parent is reading, the child's language skills increase.

A study was done with two-to three-year-old children and their parents. Half of the thirty children participated in the experimental study; the other half acted as the control group. In the experimental group, the parents were given a two-hour training session in which they were taught to ask open-ended questions rather than yes/no questions. For example, the parent should ask, "What is the doggie doing?" rather than, "Is the doggie running away?" Experimental parents were also instructed in how to expand on their children's answers, how to suggest alternative possibilities, and how to praise correct answers.

At the beginning of the study, the children did not differ on measures of language development, but at the end of one month the children in the experimental group tested 5.5 months ahead of the control group on a test of verbal expression and vocabulary. Nine months later, the children in the experimental group skill showed an advance of 6 months over the children in the control group.

26. Which of the following can be inferred from this passage?
(A) Children who talk a lot are more intelligent.
(B) Parents who listen to their children can teach them more.
(C) Active children should read more.
(D) Verbal ability can easily be increased.

27. Which of the following words could replace the word "adopting" in line 1?
(A) approving (B) following (C) adding (D) collecting

28. The word "substantially" as used in line 1 is most similar in meaning to which of the following?
(A) considerably (B) deceptively (C) subtly (D) successfully

29. In line 2, what does "it's refer to?
(A) parents increasing children's language development
(B) reading techniques being simple
(C) parents reading to children
(D) children's language development

30. The word "participated" in line 7 is closest in meaning to which of the following?
(A) put up with (B) took part in (C) came away with (D) got the point of

31. How many children were there in the study?
(A) 2 or 3 (B) 15 (C) 30 (D) 60

32. What was the difference between the control group and the experimental group?
(A) the training parents received
(B) the age of the children
(C) the books that were read
(D) the number of children

33. According to the author, which of the following questions is the best type to ask after reading to a child about a zoo?
(A) Do you see the elephant?
(B) Is the elephant in the cage?
(C) What animals do you like?
(D) Shall we go to the zoo?

34. In line 12, the word "alternative" could best be replaced by which of the following?
(A) better (B) other (C) easier (D) clearer

35. The word "praise" as used in line 12 is most similar to which of the following?
(A) compliment (B) honor (C) celebrate (D) respect

36. In line 13, the author uses the word "measures" to refer to which of the following?
(A) amounts (B) assessments (C) aspects (D) appearances

37. What conclusion is best supported by this passage?
(A) Parents should be trained to read to their children.
(B) The more children read, the more intelligent they become.
(C) Children's language skills increase when they are required to respond actively.
(D) Children who read actively act six months older.

Passage 4

But the most important role of the Library of Congress is to serve as the research and reference arm of Congress. The Library provides legislators with the information they needed to learn about the issues facing them. The Library staff answers more than 450,000 queries a year, ranging from very simple requests to extremely complex issues. In addition, people on the Library staff will prepare summaries of major legislation and bills to help Congress members stay abreast of daily legislation. The Library staff includes people of all backgrounds, from civil engineers and oceanographers to experts in labor relations. Their most important function is to provide objective, unbiased information to Congress. They present all sides of issues, allowing the legislators to make up their own minds as to the effects of the issue involved. There is an additional department for foreign law. This Library answers congressional requests for analyses foreign legislature and legal issues. The Law Library's legal specialists are proficient in 50 different languages.

38. What did the paragraph preceding this passage most likely discuss?
(A) other libraries in the U.S.A. (B) other functions of the Library of Congress
(C) other duties of legislators (D) other research organizations

39. The word "arm" in line 2 is closest in meaning to
(A) weapon (B) limb (C) branch (D) support

40. The main job of the Library of Congress is to
(A) research information (B) store books (C) study law (D) hire experts

41. The word "facing" in line 3 could be best replaced by which of the following?
(A) confronting (B) resembling (C) looking for (D) originating from

42. In line 4, what is the meaning of "queries"?
(A) calls (B) faxes (C) questions (D) letters

43. Which of the following is NOT mentioned as a way that the library staff helps legislators?
(A) preparing summaries (B) presenting their points of view
(C) reading in foreign languages (D) keeping up-to-date

44. Which of the following is closest to the meaning of "bills", as used in line 5?
(A) accounts (B) proposals (C) notes (D) offers

45. The phrase "stay abreast of" as used in line 6 is closest in meaning to which of the following?
(A) do away with (B) get the point of (C) get around (D) keep on top of

46. The word "their" in line 8 refers to which of the following?
(A) library staff (B) civil engineers (C) oceanographers (D) experts in labor relations

47. As used in line 9, the word "sides" refers to which of the following?
(A) boundaries (B) barriers (C) viewpoints (D) ideals

48. For whom is this passage most likely written?
(A) Congress members (B) the public (C) the library staff (D) lawyers

49. According to this passage, staff members
(A) present contrasting views (B) ask the legislators for help
(C) give personal opinions (D) are lawyers

50. The author is trying to be
(A) biased (B) superficial (C) informative (D) cheerful

Passage 5

In one very long sentence, the introduction to the U.N Charter expresses the ideals and the common aims of all the people whose governments joined together to form the U.N.

"We, the people of the U.N, determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold suffering to mankind, and to reaffirm faith in fundamental rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom, and for these ends, to practice tolerance and live together in peace with one another as good neighbors, and to unite our strength to maintain international peace and security, and to ensure, by the acceptance of principles and the institution of methods, that armed force shall not be used, saved in the common interest, and to employ international machinery for the promotion of economic and social advancement of all people, have resolved to combine our efforts to accomplish these aims."

The name 'United Nations' is associated to U.S President Franklin D. Roosevelt, and the first group of representatives of member states who met and signed a declaration of common intent on New Year's day in 1942. Representatives of five powers worked together to draw up proposals, completed at Dumbarton Oaks in 1944. These Proposals, modified after deliberation at the conference on International Organization in San Francisco which began in April 1945, were finally agreed on and signed as the U.N Charter by 50 countries on 26 June 1945. Poland, not represented at the conference, signed the charter later and was added to the list of original members. It was not until that autumn, however, after the charter had been ratified by China, France, the USSR, the UK, and the USA and by a majority of the other participants that the U.N officially came into existence. The date was 24 October, now universally celebrated as United Nations Day.

The essential functions of the U.N are to maintain international peace and security, to develop friendly relations among nations, to cooperate internationally in solving international economic, social, cultural, and human problems, promoting respect for human rights and fundamental freedoms and to be a center for co-ordination of the actions of nations in attaining these common ends.
No country takes precedence over another in the U.N. Each member's rights and obligations are the same. All must contribute to the peaceful settlement of international disputes, and members have pledged to refrain from the threat or use of force against other states. Though the U.N. has no right to intervene in any state's internal affairs, it tries to ensure that non-member states act according to its principles of international peace and security. U.N members must offer every assistance in an approved U.N. action and in no way assist states against which the U.N is taking preventive or enforcement action.

51. The first stated aim of the U.N. was
(A) to supervise peace treaties (B) to revise international laws (C) to prevent a third world war
(D) to assist the 'third world' countries (E) none of these

52. Under its charter, the U.N guarantees
(A) never to use arms (B) to employ international machines (C) better standards of life
(D) to stop illegal drugs (E) to promote economic & social advancement

53. President Roosevelt
(A) was a credit to "The United Nations" (B) established "The United Nations"
(C) was banned from U.N (D) was given the name "The United Nations"
(E) probably devised the name "The United Nations"

54. Dumbarton Oaks was the place where
(A) the U.N. first met
(B) representatives of five powers formulated basic suggestions
(C) 50 countries signed the U.N charter
(D) the final proposals were agreed on & the charter signed
(E) the first official meeting was held

55. The U.N came into existence fully in
(A) 1942 (B) 1944 (C) 1945 (D) 1940 (E) 1946

56. United Nations day is celebrated on
(A) 24 October (B) 24 April (C) 26 October (D) 26 June (E) 16 December

57. The essential functions of the U.N
(A) are limited to discussions and debates (B) are economic and cultural
(C) not yet determined (D) are only concerned with human rights
(E) include coordinating actions where necessary

58. Large member countries like China and the USA
(A) have precedence over small countries like Poland (B) have more freedom in the U.N than Poland
(C) provide 75% of U.N running costs (D) have the same rights & duties as other members
(E) controls U.N decisions

59. A country's domestic policies
(A) cannot be forcibly changed by the U.N. (B) are often investigated by the U.N.
(C) are often enforced by the U.N. (D) depend fully on U.N. lawmakers
(E) are not allowed to benefit from U.N. advice or assistance

60. A member country cannot ally itself with
(A) other U.N. member countries (B) other countries not member of the U.N.
(C) countries defying the U.N. (D) countries that involves in war with each other
(E) states against which the U.N. has taken preventive or enforcement action

ANSWER KEY

1. A	2. B	3. D	4. D	5. B
6. A	7. C	8. B	9. A	10. B
11. D	12. D	13. A	14. B	15. A
16. A	17. C	18. C	19. A	20. D
21. A	22. B	23. D	24. D	25. C
26. D	27. B	28. A	29 A	30. B
31. C	32. A	33. C	34. B	35. A
36. C	37. C	38. B	39. D	40. A
41. A	42. C	43. B	44. B	45. D
46. A	47. C	48. B	49. A	50. C
51. C	52. E	53. E	54. B	55. C
56. A	57. E	58. D	59. A	60. E

Chapter 3
Mathematics

- ⇨ Cracking the Math Section
- ⇨ Algebra
- ⇨ Arithmetic
- ⇨ Geometry

CRACKING THE MATH SECTION

IBA Admission Test-এ ৩০টি Standard Multiple Choice Problem এর একটি Math Section থাকে। এর উদ্দেশ্য Candidate দের Mathematical Reasoning এবং Quantitative Aptitude assess করা। Section টিতে Junior এবং High School পর্যায়ের difficulty level এর Arithmetic, Algebra এবং Geometry থাকবে, কোন Trigonometry বা High Tech Algebra বা High Tech Geometry থাকবে না।

Composition of Math section in previous years' IBA MBA Admission Tests

Problem Type	01 - 02	02 - 03	03 - 04	04 - 05	05 - 06	06 - 07	07 - 08	08 - 09	09 - 10	10 - 11	'11 Ju	'11 De	'12 Ju	'12 De	'13 Ju
Numbers, Integers	3	4	6	1	6	2	6	3	2	1	3	5	3	2	2
Factors, Multiples		1	1			1					1	3	2	1	2
Algebraic Expressions, Equations, Functions	1	2	2	2	3	5	1	3	4	3	7	7	4	3	5
Inequality, Exponents	1	2		3	2		2	9		1	4	3	4	3	7
Unitary System, Fraction, Ratio, Proportion	7	6	5	2	8	5	5	2	5	5	2	1	1	8	3
Percentage, Profit-loss, Discount, Interest	3	5	2	4	3	7	5	4	5	3	4	5	5	6	3
Speed, Distance, Time	3	1	1	1		1	1	1	2	2		1	1	1	1
Work-done Problems	2	1		1	1		3	1		1	1	1	2	1	1
Average, Mean, Median		1		4	1	2		1	3	2	3		2	2	1
Mixture, Solution	2	1			1		1	1					1		1
Set, Permutation, Combination, Probability	1			3	2	1				5				1	
Angle, Triangle	4	4	5	3	2	3	3	4	1	2	1	2		1	2
Quadrilateral, Polygon	2	2	3	2		1	1	1	2	2	1	1	3	1	1
Circle	1		3	2		2	1			1	3	1	2		1
Solid Geometry				1	1				1	1					
Co-ordinate Geometry			2	1			1			1					
Total	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**30**	**25**	**30**	**30**	**30**	**30**	**30**	**30**

উপরের table থেকে IBA Admission Test-এর গতিপ্রকৃতি অনুমান করা যায়। Table থেকে particular কোন Chapter এর উপর emphasis দিতে হবে বোঝা যাচ্ছে। তবে best preparation এর জন্য প্রাথমিকভাবে এই section এর প্রত্যেকটি Chapter-ই আপনাদের equally concentrate করা উচিত।

- আপনাদের নীচের কিছু basic game plan মনে রাখতে হবে।

1. Time Limitation: Admission test এর MCQ section-এর total duration 90 minutes এবং এই সময়ের মধ্যে ৩ টি section complete করতে হবে। যদিও section গুলোর মাঝে কোন time bar নেই তবুও আপনাদের মনে রাখতে হবে এই section এর জন্য আপনারা around 30 minutes পাবেন। প্রতিটি problem এর জন্য problem গুলোর difficulty level consider করে time allocate করতে হবে।

2. Point Deduction: একটি right answer এর জন্য আপনি 1 point পাবেন। একটি wrong answer এর জন্য score 0.25 কমে যাবে। কোন question attempt না করলে তার জন্য কোন negative marking নেই। অর্থাৎ কেউ যদি 28টি problem attempt করে 24টি answer correct করতে পারে সে 23 point (24 – (4 x 0.25)) পাবে।

3. Eliminating and Guessing: Test এ প্রতিটি problem এর জন্য ৫টি answer choice থাকবে। Luck neutral থাকলে dumb guessing এর জন্য ultimately '– 0.25' পাবেন। কিন্তু বুদ্ধি করে কিছু choice eliminate করতে পারলে gainer হবার probability বেড়ে যাবে।

4. Minimum Margin: Pass করতে হলে প্রতিটি section-এ 40% - 60% (depends on the difficulty level) marks পেতে হবে অর্থাৎ negative marking এর পর আপনাকে 12-18 পেতে হবে। তবে আপনার desired success এর জন্য target একটা low হলে চলবে না।

5. Picking up a Number: প্রতিটি problem তার normal sequence অনুযায়ী solve করা যায়। কখনো কখনো problem solve করতে হলে variable pick করতে হয়। তবে variable pick না করে percent এর problem এ 100 এবং fraction related problem -এ Least Common Multiple (হরগুলোর ল.সা.গু) pick করলে time save করা যায়।

6. Backward Solving: লক্ষ্য করবেন answer choice গুলো মানের ক্রমানুসারে arrange করা থাকে। মধ্যম মানটি বেছে নিন। Problem এর সাথে মিলিয়ে দেখুন। এখন আপনি বুঝতে পারছেন number টি আরো বড় না ছোট হওয়া দরকার। যদি সংখ্যাটি বড় হওয়ার দরকার হয় তাহলে ছোট মান দুটি eliminate করেন।

বাকি answer choice দুটির একটি যদি আপনার probem solve করে তাহলে সেটি answer না হলে অন্যটি। এভাবে 5টি answer choice এর দুটি try করেই আপনি right answer টি pick করতে পারেন।

নীচের example টি খুবই appropriate এবং আমরা student দের সাধারণত এই example টি দিয়ে থাকি।

Example: Nafis invested a part of taka 2000 at 5% rate of interest and rest at 4%. If he earns Tk. 95 as interest payment after one year, how much of the amount was invested at 5% rate?

(A) 500 (B) 1000 (C) 1200 (D) 1500 (E) 2000

Solution: একটি variable (x) ধরে problem টি solve করা যায় ঃ

$$\left[\frac{5x}{100}+\frac{4(2000-x)}{100}=95\right]$$

or, 5x + 8000 – 4x = 9500;

or, x = 1500

অথবা আমরা first এ 1200 pick করি। Return হবে (12 x 5) + (8 x 4) = 92 অতএব answer হবে D অথবা E. Taka 2000 যদি 5% interest এ invest করা হতো return হতো Tk. 100। অতএব right answer হবে D.

7. Calculator and Draft Paper: Real exam-এ আপনারা Calculator কিংবা Draft Paper use করতে পারবেন না। Practice-এর সময় calculator use করার প্রশ্নই আসে না এবং rough work booklet -এ করা উচিত। মনে রাখবেন, booklet এর writing section ছাড়া অন্য section গুলোর পরিচ্ছন্নতা examiner দের উপর কোন positive impression create করে না।

Best of luck!

NECESSARY MEASUREMENTS

Length:	1 foot = 12 inches	1 yard = 3 feet
	1 mile = 5280 feet	1 mile = 1760 yards
Area:	1 square foot = 144 square inches	1 square yard = 9 square feet
Time:	1 minute = 60 seconds	1 hour = 60 minutes
	1 day = 24 hours	1 hour = 3600 seconds
	1 year = 52 weeks	1 week = 7 days
Volume:	1 quart = 2 pints	1 gallon = 4 quarts
	1 m^3 = 1000 liters	1 liter = 1000 cm^3
Weight:	1 pound = 16 ounces	1 kilogram = 2.2 pounds

LIST OF MATHEMATICAL TERMS

Fraction- ভগ্নাংশ
Ratio- অনুপাত
Proportion- সমানুপাত
Decimal- দশমিক
Division- ভাগ
Multiplication- গুন
Multiple- গুণক
Factor- উৎপাদক
Odd- বিজোড়
Even- জোড়
Sum- যোগফল
Difference- বিয়োগফল
Product- গুণফল
Quotient- ভাগফল
Dividend- ভাজ্য
Divisor- ভাজক
Variable- চলক
Constant- ধ্রুবক
Numerator- লব
Denominator- হর
L.C.M- ল. সা. গু
H.C.F- গ. সা. গু
L.C.D- সমহর
Remainder- ভাগশেষ
Approximate value- আসন্ন মান
Factorization- উৎপাদকে বিশ্লেষণ
Progression- প্রগমন
Area- ক্ষেত্রফল
Perimeter- পরিসীমা
Cube- ঘন
Volume- আয়তন
Polygon- বহুভুজ
Regular polygon- সুষম বহুভুজ
Hexagon- ষড়ভুজ
Sphere- গোলক
Cylinder- বেলন
Altitude- উচ্চতা
Surface Area- উপরিতলের ক্ষেত্রফল
Rectangular Solid- আয়তাকার ঘন

QUADRILATERALS
Rectangle- আয়তক্ষেত্র
Square- বর্গক্ষেত্র
Parallelogram- সামন্তরিক
Trapezoid- ট্রাপিজিয়াম
Diagonal- কর্ণ
Rhombus- রম্বস

ANGLES
Vertex- শীর্ষবিন্দু
Angle- কোণ
Right Angle- সমকোণ
Obtuse Angle- স্থূল কোণ
Acute Angle- সূক্ষ্ম কোণ
Corresponding Angle- অনুরূপ কোন
Alternate Angle- একান্তর কোণ
Straight Angle- সরল কোণ
Adjacent Angles- সন্নিহিত কোণ
Complementary Angle- পূরক কোণ
Supplementary Angle- সম্পূরক কোণ
Vertical Angle- বিপ্রতীপ কোণ
Hypotenuse- অতিভুজ
Reflex Angle- প্রবৃদ্ধ কোণ
Interior Angle- অন্তঃস্থ কোণ
Exterior Angle- বহিঃস্থ কোণ
Transversal- ছেদক

TRIANGLES
Triangle- ত্রিভুজ
Perpendicular- লম্ব
Isosceles Triangle- সমদ্বিবাহু ত্রিভুজ
Equilateral Triangle- সমবাহু ত্রিভুজ
Scalene- বিষম বাহু ত্রিভুজ
Right Triangle- সমকোণী ত্রিভুজ

CIRCLE
Radius- ব্যাসার্ধ
Radii- ব্যাসার্ধের বহুবচন
Diameter- ব্যাস
Circumference- পরিধি
Center- কেন্দ্র
Tangent- স্পর্শক
Chord- জ্যা
Arc- বৃত্ত চাপ
Segment- বৃত্তাংশ
Secant- ছেদক
Semi-circle- অর্ধবৃত্ত
Inscribed Angle- বৃত্তস্থ কোণ
Central Angle- কেন্দ্রস্থ কোণ

Algebra Review

- *Properties of Numbers, Number Set, Number Line, Divisibility, Approximation, Rounding Off, Standard Terms & Symbols.*
- *Set, Venn Diagrams, Functions, Factorization, Algebraic Expressions & Equations.*
- *Inequality, Exponents, Roots, Progressions.*
- *Factors, Multiples, HCF, LCM, Fractions & Decimals.*

❖ CHAPTER OUTILINE

- ✓ Properties of Number
- ✓ Number Set, Number Line
- ✓ Positive / Negative, Odd / Even, Consecutive Numbers
- ✓ Prime, Composite Numbers
- ✓ Divisibilities
- ✓ Approximation
- ✓ Rounding Off
- ✓ Standard Terms and Symbols

IBA admission test -এর Math Section এ fundamental math এবং mathematical logic এর গুরুত্ব সবচেয়ে বেশি। Elementary concept গুলো clear না করে অন্যান্য topic গুলোতে concentrate করতে গেলে অনেক Problem face করতে হবে। Basic concept clear থাকলে algebra related problem সহজেই overcome করা যাবে।

Elementary Topics

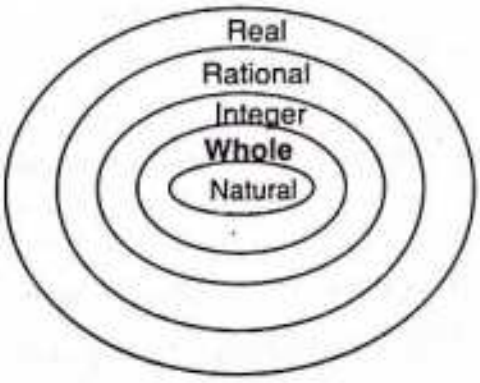
Natural or Counting Numbers: Numbers those are used for counting; eg. 1, 2, 3, 4.....

Integers or Whole Numbers: Integer (পূর্ণ সংখ্যা) হচ্ছে এমন কিছু number যেগুলোকে fraction (ভগ্নাংশ) বা decimal (দশমিক ভগ্নাংশে) ব্যবহার না করে লেখা যায়। যেমন : -3, -2, -1, 0, 1, 2, 3 etc.

Rational Numbers: এমন সব number যেগুলোকে fraction অর্থাৎ a/b আকারে লেখা সম্ভব। যেমন: $\frac{1}{2}$, $(\frac{-4}{2})$, $\frac{23}{7}$.

Irrational Numbers: এমন কিছু number যেগুলোকে fraction বা দুটি integer a ও b এর Ratio (অনুপাত) হিসাবে লেখা যায়না। যেমন, π কে exactly 3.1416 বলা যায় না। $\sqrt{2}$ এর মান লিখে শেষ করা যায় না বলে 1.41 ধরে নেয়া হয়।

Real Numbers: এ পর্যন্ত যতগুলো number set নিয়ে আলোচনা করা হলো সেগুলোকে এক সাথে করলে যে number set পাওয়া যাবে তা হচ্ছে real number এর set. এই set এর প্রত্যেকটি element (সদস্য) real number.



Imaginary: Positive বা Negative কে square (বর্গ) করলে positive number পাওয়া যায়। But negative সংখ্যার কোন real root (বর্গমূল) নেই। Those are imaginary roots. যেমন : $\sqrt{-2}$

Digits : Decimal system-এ 0, 1, 2, ... 9 এই দশটি Digit এর সাহায্যে সংখ্যা express এবং calculate করা হয়।

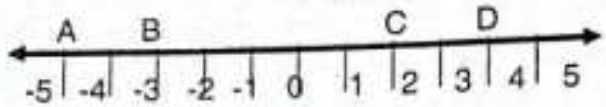
12345 একটি five digit integer যেখানে

5 is the unit digit — 4 is the tenth digit — 3 is the hundredth digit
2 is the thousandth digit — 1 is the ten-thousandth digit

প্রতিটি digit এর সাথে স্থানীয় মান গুণ করে - গুণফল গুলো যোগ করলে number টি পাওয়া যাবে।

$$1 \times 10000 + 2 \times 1000 + 3 \times 100 + 4 \times 10 + 5 \times 1 = 12345$$

Number Line: Numbering system এর Linear representation হচ্ছে Number Line. একটি axis (অক্ষ) এর মাঝে 0 এবং 1, 2, 3 ..... ইত্যাদির মাধ্যমে '0' থেকে অন্যান্য Point গুলোর distance count করা হয়। (+) এবং (-) এর সাহায্যে যথাক্রমে '0' এর ডান এবং বাম দিক নির্দেশ করা হয়। Number Line এ সাধারণত integral value গুলো দেখানো হয়।



Number Line দুই দিকে অসীম (Positive infinity and negative infinity) পর্যন্ত বিস্তৃত। প্রতিটি integral value এর মাঝে অসীম সংখ্যক fraction বা ভগ্নাংশ আছে। Number Line এর right side এর point, left side এর point এর চেয়ে বড়। অর্থাৎ '0' এর ডান দিকে দূরবর্তী সংখ্যা বড় এবং বাম দিকে '0' এর কাছের সংখ্যা দূরের সংখ্যার চেয়ে বড়। Diagram এ A <B <C <D

Number Line যে কোন দুটি Point এর distance সহজেই বের করা যায় এবং তাকে positive value হিসেবে count করা হয়।

Positive or Negative: Number Line এ '0' ডান দিকের point গুলোকে positive এবং বাম দিকের point গুলোকে Negative number বলে। অর্থাৎ positive number '0' অপেক্ষা বড় এবং negative number 0 থেকে ছোট। Always remember what happens when you multiply positive and negative numbers:

Pos x Pos = Pos	2 x 2 = 4
Neg x Neg = Pos	-2 x -2 = 4
Pos x Neg = Neg	2 x -2 = -4

Odd or Even: If a number is evenly divisible by 2, it is an even number. যে সংখ্যা 2 দিয়ে নিঃশেষে বিভাজ্য হয় অর্থাৎ কোন remainder (ভাগ শেষ) থাকে না, সে সংখ্যাকে even number (জোড় সংখ্যা) বলে। যেমন ঃ -4, -2, 0, 2, 4.
2 দিয়ে নিঃশেষে বিভাজ্য নয় এমন সব সংখ্যাকে odd number (বিজোড় সংখ্যা) বলে। যেমন ঃ -3, -1, 1, 3..... Fraction কখনো even বা odd নয়। কোন Integer এর Unit digit even হলে Integer টি even এবং odd হলে Integer টি odd.

Always remember:

even + even = even	even x even = even	odd + odd = even
odd x odd = odd	even + odd = odd	even x odd = even

Consecutive Numbers: Consecutive numbers বা ধারাবাহিক সংখ্যা হচ্ছে একই বৈশিষ্ট্যের পাশাপাশি কিছু সংখ্যা। There will be a particular interval between every two consecutive numbers in any series.

যেমনঃ

Consecutive positive number: 1, 2, 3, 4, 5, 6

Consecutive negative number: -99, -98, -97, -96, -95

Consecutive even numbers: 6, 8, 10, 12

Consecutive odd numbers: 5, 7, 9, 11

Consecutive integers: -4, -3, -2 -1, 0, 1, 2, 3, 4

Prime Numbers: A prime number is that integer which has exactly two unique factors (1 and itself). Prime number is not evenly divisible by any other prime number. 30-এর ছোট Prime number গুলো হচ্ছে- 2, 3, 5, 7, 11, 13, 17, 19, 23, 29.

You should work-out and memorize prime numbers upto 100.

Negative numbers are not prime numbers.

0 is not a prime number.

1 is not a prime number.

2 is the only even prime number. It is the smallest prime number too.

Prime Number নির্ণয়ের একটি সহজ পদ্ধতি : কোন number prime কিনা তা নির্ণয়ের জন্য প্রথমে number টির approximate root (বর্গমূল) নির্ণয় করতে হবে। তারপর root এর চেয়ে ছোট বা সমান সব prime number দিয়ে number টিকে ভাগ করতে হবে। কোন ক্ষেত্রে Quotient যদি integer হয় তবে number টি prime হবে না। number টি যদি root এর চেয়ে ছোট সব prime number দিয়ে ভাগ করলে কোন ক্ষেত্রেই evenly divisible না হয় তবে number টি prime.

Example: Is the number 191 prime?

$\sqrt{191} \approx 14$.

14 এর ছোট Prime number গুলো হচ্ছে 2, 3, 5, 7, 11 এবং 13। এদের কোনটি দিয়েই 191 evenly divisible না। ∴ 191 একটি prime number.

Composite Numbers: Composite number 1 এবং ঐ number ছাড়াও এক বা একাধিক number দিয়ে evenly divisible. যেমন : 4, 6, 8, 9, 12 etc.

Zero : Zero (0) একটি Integer. Zero একটি even number. Zero positive কিংবা negative কোনটিই নয়, এটি neutral number. Zero Prime number নয়। And zero is not a composite number.

One : One (1) একটি positive integer. এটি একটি odd number. One (1) prime কিংবা composite কোনটিই নয়।

Absolute Value : Absolute Value বা পরম মান হচ্ছে + or - চিহ্ন বর্জিত সংখ্যা। x এর absolute value কে |x| আকারে লেখা হয়। In terms of number line, 0 থেকে কোন সংখ্যার distance (always positive) এই সংখ্যার absolute value যেমন : $|\pm 5| = 5$.

Divisibility:

i) একটি integer 2 দিয়ে divisible যদি integer এর units digit even হয়। যেমন : 598 integer টি 2 দিয়ে divisible.

ii) একটি integer 3 দিয়ে divisible যদি integer এর digit গুলোর sum 3 দিয়ে divisible. যেমন: 2,145 integer টি 3 দিয়ে divisible কেননা $(2 + 1 + 4 + 5) = 12$ এবং 12 integer টি 3 দিয়ে divisible.

iii) একটি integer 4 দিয়ে divisible যদি integer টির unit এবং tenth digit নিয়ে যে সংখ্যা হয় তা 4 দিয়ে divisible হয়। যেমন : 440 integer টি 4 দিয়ে divisible কেননা 40 integer টি 4 দিয়ে divisible.

iv) একটি integer 5 দিয়ে divisible যদি তার unit digit 0 বা 5 হয়। যেমন : 1110, 1225

v) একটি integer 6 দিয়ে divisible যদি integer টি 2 ও 3 দুটো দিয়েই divisible হয়।

vi) একটি integer 8 দিয়ে divisible যদি ডান দিকের তিনটি digit এর নিয়ে যে সংখ্যা হয় তা 8 দিয়ে divisible হয়। যেমন : 454,816 integer টি 8 দিয়ে divisible কেননা 816 integer টি 8 দিয়ে divisible.

vii) একটি integer 9 দিয়ে divisible যদি sum of the digits 9 দিয়ে divisible হয়। যেমন : 12,339 integer টি 9 দিয়ে divisible কেননা $(1 + 2 + 3 + 3 + 9) = 18$ integer টি 9 দিয়ে divisible.

viii) একটি integer 10 দিয়ে divisible যদি এর unit digit 0 হয়।

ix) একটি integer 11 দিয়ে divisible যদি ডান দিক থেকে odd numbered place এর digit গুলোর sum এবং even numbered place এর digit গুলোর sum এর difference 0 বা 11 বা 11 এর multiple হয়। যেমন : 411,213 integer টি 11 দিয়ে divisible কেননা $(1+2+3) - (1+1+4) = 0$.

Divisibility র এই সব rule এর উপর ভিত্তি করে কোন integer বড় অন্য কোন divisor দিয়ে divisible কিনা তা নির্ণয় করতে হবে।

Approximations: Approximation বা আসন্ন মান বের করার পদ্ধতি আমরা rough check করতে ব্যবহার করি। বাংলাদেশের population 159,080,050 না বলে 160 million বলা more logical. এটি approximation এর একটি simple example. Approximation significant figures অথবা Decimal places এর উপর ভিত্তি করে করা হয়।

Rounding Off: কোন Number এর left side এর non-zero digit কে 1st significant figure, 2nd digit কে 2য় significant figure অথবা 1st place to be accurate, 2nd place to be accutrate, অথবা 1st place of accuracy বা 2য় place of accuracy ইত্যাদি ভাবে express করা হয়। Directed place-এ accuracy-র জন্য তার right side-এর place এর digit 5 এর কম হলে তাকে eliminate করা হয়। কিন্তু 5 এর সমান বা বেশি হলে উল্লেখিত Place এ 1 যোগ করা হয়। যেমনঃ

34,592 = 30,000 Accurate to 1st s.f
= 35,000 Accurate to 2nd s.f
= 34,600 Accurate to 3rd s.f

Decimal Places: Decimal বা দশমিকের পরের place গুলোকে যথাক্রমে 1st decimal place, 2nd decimal place ইত্যাদি এবং digit গুলোকে tenth, hundredth ইত্যাদি digit বলা হয়। এক্ষেত্রেও round-up একইভাবে করা হয়। যেমন ঃ

0.11265 = 0.1 (Accurate to 1st decimal places)
= 0.11 (Accurate to 2nd decimal places).
= 0.113 (Accurate to 3rd decimal places).

কোন decimal number কে integer value তে convert করতে হলে দশমিকের পরে 5 এর বেশি number থাকলে unit digit এর সাথে 1 add করতে হয় এবং এর কম থাকলে দশমিকের পরে সংখ্যাগুলো বাদ দিতে হয়। যেমন- 5.72 ~ 6 এবং 102.47 ~ 102

Standard Symbols: কিছু standard symbol এবং symbol গুলোর meaning:

Symbol	*Meaning*
=	is equal to (সমান)
≠	is not equal to (অসমান)
<	L.H.S. is less than R.H.S (ছোট)
>	L.H.S. is greater than R.H.S (বড়)
≤	L.H.S is less than or equal to R.H.S. (ছোট বা সমান)
≥	L.H.S is greater than or equal to R.H.S (বড় বা সমান)
|x|	absolute value of x (পরম মান)
L.H.S.	left hand side of an equation or inequality (বামপক্ষ)
R.H.S.	right hand side of an equation or inequality (ডানপক্ষ)
≅	is congruent to (সর্বসম)
~	is similar to (অনুরূপ)
⊥	is perpendicular to (লম্ব)
||	is parallel to (সমান্তরাল)
±	Plus or minus (যোগ বা বিয়োগ)

Review Excercise – 1

1. If a number is divisible by 102, then it is also divisible by:
(A) 23 (B) 11 (C) 103 (D) 5 (E) 2

2. Which of the following numbers is divisible by 36?
(A) 35,924 (B) 64,530 (C) 74,098 (D) 152,640 (E) 192,042

3. How many prime numbers are there between 45 and 72?
(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

4. If w, x, y and z are all integers greater than 2, which of the following is the greatest?
(A) $x + yz + w$ (B) $x + y(z + w)$ (C) $(x + y)(z + w)$
(D) $(x + y)z + w$ (E) $x + (yz + w)$

5. Which of the following factions is NOT equal to $\frac{40}{50}$?
(A) $\frac{4}{5}$ (B) $\frac{12}{15}$ (C) $\frac{20}{25}$ (D) $\frac{24}{35}$ (E) $\frac{48}{60}$

6. $\frac{1.04}{0.079} = ?$
(A) $\frac{10.04}{0.0079}$ (B) $\frac{104}{0.79}$ (C) $\frac{10.4}{0.79}$ (D) $\frac{0.104}{0.79}$ (E) $\frac{104}{0.0079}$

7. How many odd integers are between $\frac{10}{3}$ and $\frac{62}{3}$?
(A) 18 (B) 10 (C) 9 (D) 8 (E) 7

8. If t is any integer, which of the following represents an odd number?
(A) 2t (B) 2t + 3 (C) 3t (D) 2t+2 (E) t+1

9. What is the product of 23 and 79 to one place of accuracy?
(A) 1600 (B) 1817 (C) 1000 (D) 1800 (E) 2000

10. The number 89.919 rounded of to the nearest tenth is equal to which of the following?
(A) 90.0 (B) 89.0 (C) 89.4 (D) 89.99 (E) 89.9

11. The sum of five odd numbers is always:
(A) even (B) divisible by 3 (C) divisible by 5
(D) a prime number (E) none of the above

12. Which of the following numbers is divisible by 11?
(A) 30,217 (B) 44,221 (C) 59,403 (D) 60,411 (E) none of the above

13. Which of the following numbers is a prime?
(A) 147 (B) 149 (C) 153 (D) 155 (E) 161

14. The sum of five consecutive odd integers is always:
(A) divisible by 3 (B) divisible by 5 (C) Even
(D) positive (E) Prime

15. Which of the following number is divisible by 24?
(A) 13,444 (B) 15,746 (C) 15,466 (D) 16,012 (E) None of the above

16. Which of the following is the greatest integer less than 630,000 that can be written using all of the digits from 1 to 6?
(A) 629,999 (B) 654,321 (C) 624,531 (D) 62,555 (E) 625,431

17. If the sum of three different prime numbers is an even number, what is the smallest of the three?
(A) 1 (B) 2 (C) 3 (D) 7 (E) Cannot be determined

18. On a number line, point B is at a distance of 5 from point C and point D is at a distance of 7 from point C. What is the distance from point B to point D?
(A) 2 (B) 5 (C) 7 (D) 12 (E) Can not be determined

19. If a and b are integers and the sum of ab and b is odd, which of the following must be true?
I. a and b are both odd II. a is even and b is odd III. a is odd and b is even
(A) I only (B) II only (C) III only (D) I and II (E) I and III

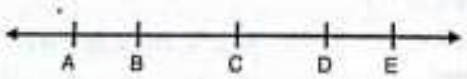
20. Which of the following is the best approximation of the product (1.005) (20.0025) (0.0102)?
(A) 0.02 (B) 0.2 (C) 2.0 (D) 20 (E) 200

21. The sum of four consecutive odd integers must be:
(A) even, but not necessarily divisible by 4
(B) divisible by 4, but not necessarily by 8
(C) divisible by 8, but not necessarily by 16
(D) divisible by 16
(E) none of the above.

22. Six consecutive integers are given. The sum of the first three is 27. What is the sum of the last three?
(A) 29 (B) 30 (C) 32 (D) 33 (E) 36

23. Of the following, the closest approximation to $\left(\frac{198.27(0.5012)}{2.02}\right)$ is
(A) 25 (B) 50 (C) 75 (D) 100 (E) 500

24. If the product of four different positive integers is 42, how many of these integers are prime numbers?
(A) 1 (B) 2 (C) 3 (D) 4 (E) Cannot be determined

25. 

In the diagram above, AD = BE = 6 and CD = 3 BC. If AE = 8, then BC =?
(A) 6 (B) 4 (C) 3 (D) 2 (E) 1

Answer keys

1. E	6. C	11. E	16. E	21. C
2. D	7. D	12. A	17. B	22. E
3. C	8. B	13. B	18. E	23. B
4. C	9. E	14. B	19. B	24. C
5. D	10. E	15. E	20. B	25. E

❖ CHAPTER OUTILINE

- ✓ Set, Venn Diagrams
- ✓ Functions, Symbol Problems
- ✓ Factorization
- ✓ Algebric Expressions & Equations

Set: A set is a well-defined class of objects, so that we can tell without ambiguties whether any one object does or does not belong to that class, অর্থাৎ, বিভিন্ন বস্তুর সুনির্ধারিত সংগ্রহকে সেট বলা হয়। এখানে সুনির্ধারিত বলতে এই বোঝায় যে, কোন বস্তুটি বিবেচনাধীন সংগ্রহের অন্তর্ভূক্ত আর কোনটি নয় তা সুনির্দিষ্টভাবে বলা যায়।

A, B, C, X, Y, Z ইত্যাদি Capital Letter দিয়ে set এর নামকরণ করা হয়, অন্তর্ভূক্ত বস্তুসমূহকে set এর উপাদান (element) বা সদস্য (member) বলা হয়। a যদি A set এর element হয় তাহলে $a \in A$ এবং না হলে $a \notin A$ লেখা হয়।

একটি set বিভিন্নভাবে define করা যায়। যেমন ঃ

i. A = 6 থেকে ছোট সকল ধনাত্মক পূর্ণ সংখ্যার সেট

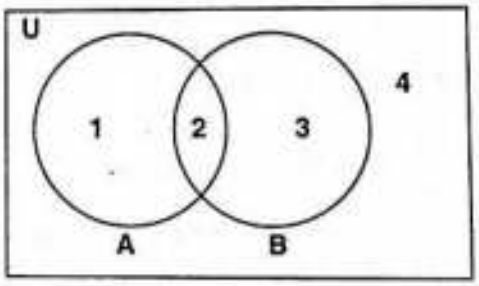
ii. A = {1, 2, 3, 4, 5}

iii. A = {x: x is an integer such that 0<x<6}

IBA এর admission test এ set theory সম্পর্কিত problem থাকতে পারে । বিভিন্ন set এর relation দেখানোর একটি পদ্ধতি "Venn Diagram" বা 'ভেনচিত্র', কিছু math এবং analytical ability related problem solve করতে সাহায্য করবে।

Venn Diagram: বিবেচনাধীন সব বস্তুকে rectangle এবং set গুলো oval অথবা Circle-এ রেখে বিভিন্ন set এর relation দেখানো যায়,

Relationship of two sets →



এখানে U = Universal set বা বিবেচনাধীন সকল বস্তু
A = set A
B = set B
1 = only set A
2 = $A \cap B$ বা A and B (AB) অর্থাৎ A ও B এর common element
3 = only set B
4 = Neither set A nor set B (A'B')
1, 2, 3 = $A \cup B$ বা A or B অর্থাৎ A ও B এর common এবং uncommon element

Common এবং Uncommon element

U = 1+2+3+4
= {A + B - AB} + A'B'

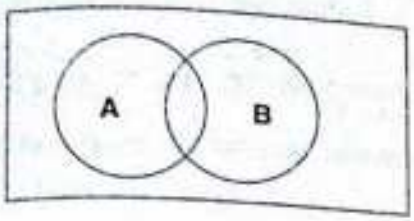
Example: All the 120 pupils in a certain school learn French or Spanish or both. 75 learn Franch and 60 learn Spanish. How many learn both?

$U = A + B - AB + A'B'$

$\therefore 120 = 75 + 60 - AB + 0$ or, $AB = 15$

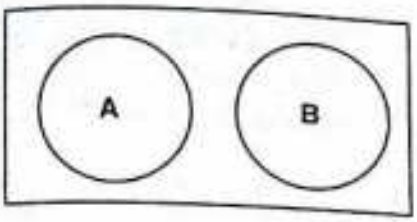
Three Types of Venn Diagram for Two Sets:

(i)



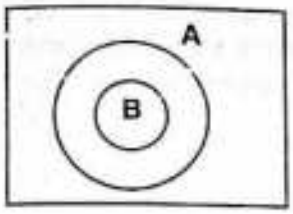
A and B have some common elements

ii)



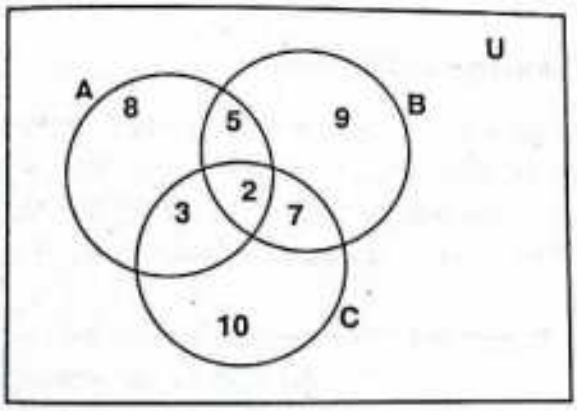
No common element for A and B

iii)



All the elements of set B are in set A.

Relationship of Three Sets:



A = {2, 3, 5, 8}
B = {2, 5, 7, 9}
C = {2, 3, 7, 10}

A, B ও C এর element গুলো বিবেচনা করলে দুটি set এর relation থেকে সহজেই তিনটি set এর relation পাওয়া যায়। এখানে,

$U = \{A + B + C - AB - BC - CA + ABC\} + A'B'C'$

Example: Of 250 students surveyed in Mentors, 118 had applied for IBA, 98 for DU, 94 for Textiles, 42 had applied for IBA and D.U, 24 for DU and Textiles, 34 for Textiles and IBA, while 8 had applied for all three. How many students applied for other institutions?

$250 = \{118 + 98 + 94 - 42 - 24 - 34 + 8\} + A'B'C'$

$250 = 218 + A'B'C'$

$A'B'C' = 32.$

Functions: Relationship among dependent variable, independent variable and constants.

Choose a number, double it, then subtract 3 from that.
আমরা যদি 5 choose করি তাহলে result হবে 7; যদি -1 choose করি result হবে –5.

এখানে result এবং number input যে কোন সংখ্যা হতে পারে, এদের মান সুনির্দিষ্ট নয়, এই রকম সংখ্যাকে variable বলা হয়। x, y, z, p, q, r ইত্যাদি variable কে denote করে, x variable টির মান এর উপর ভিত্তি করে y variable টির মান নির্ণয় করা হলে x কে independent এবং y কে dependent variable বলা হয়।

Function হচ্ছে independent এবং dependent variable এর relationship. f(x), g(y) বা h(z) ইত্যাদি দিয়ে function denote করা হয়।

এই relationship-এর operation এ কিছু মান ব্যবহার করা হলে তাদের constant বলা হয়; a, b, c ইত্যাদি দিয়ে constant denote করা হয়। উপরের order of operation এভাবে লেখা যায়,

$y = f(x) = 2x - 3$

এখানে, y dependent variable
x independent variable
2 ও 3 Constant.
y হচ্ছে x এর একটি function.

Example: let $f(x) = x^2+2$ and $g(y) = y-2$. What is the value of f [g (5)]

Solution: Now $g(5) = 5 - 2 = 3$. So, $f[g(5)] = f(3) = 3^2+2 = 11$.

Symbol Problems: কিছু কিছু Problem এ f (x), g (y), h (z) ইত্যাদি common sign ব্যবহার না করে (x), #x, $x, x*y বা x@y ইত্যাদি বিভিন্ন symbol ব্যবহার করা হয়। Confused হবার কিছু নেই, এগুলোও function এর মতই simple order of operation. Sequence অনুযায়ী x অথবা x ও y এর মান বসিয়ে সহজেই problem solve করা যায়।

Example -1: Let $x*y = \frac{x+y}{x-y}$ if $x = 3$ and $y = 2$

Find the value of x*y

Solution: $3*2 = \frac{3+2}{3-2} = 5$

Example -2: If x can be expressed as y^2, where y is a positive integer and $*x* = \frac{y^3}{2}$.

Again if $*x* = 4$, what is the value of x?

Solution : $y^2=x \quad \therefore y=\sqrt{x}$

আবার, $*x* = \frac{y^3}{2} = \frac{(\sqrt{x})^3}{2}$

এখন, $*x* = 4$

$\frac{(\sqrt{x})^3}{2} = 4$, or $\sqrt{x} = 2$, or $x = 4$ (Ans)

Factorization: Algebraic expression এর factorization এর অর্থ হচ্ছে expression টিকে factor গুলোর multiple হিসাবে প্রকাশ করা।

$ab + ac = a(b+c)$ একটি সাধারণ উদাহরণ।

Algebraic expression এর মান নির্ণয় বা equation solve করতে factorization সম্পর্কে idea প্রয়োজন হয়। IBA admission test- এ এছাড়া factorization এর importance খুব কম। সাধারণভাবে তিনটি step-এ factorization সম্পূর্ণ করা যায়।

Step 1: প্রথমে obvious common factor থাকলে তা common নিতে হবে।

Step 2: Formula middle-term-break পদ্ধতি ব্যবহার করে binomial বা trinomial (Two or three termed expression) টিকে factorize করতে হবে।

Step 3 : লক্ষ্য রাখতে হবে কোন factor কে further factorize করা যায় কি না।

Middle-term Break: $x^2 + ax + b$ বা $ax^2 + bx + c$ এই ধরনের trinomial কে middle-term break করা হয়। Middle-term break-এ expression টিকে $x^2 + (p+q)x + pq$ আকারে এনে $(x + p)(x + q)$ আকারে factorize করা হয়।

Example 1: $ax^2 + 9ax + 20a = a(x^2 + 9x + 20)$

এখানে, $p + q = 9$ এবং $pq = 20$

$p, q = 5, 4$

$a(x^2 + 9x + 20) = a(x^2 + 5x + 4x + 20) = a(x + 5)(x + 4)$

Some Important Algebric Formulae and Expressions:

$a^2 - b^2 = (a + b)(a - b)$ $\qquad$ $(a + b)^2 = a^2 + 2ab + b^2$

$(a - b)^2 = a^2 - 2ab + b^2$ $\qquad$ $(a + b)^2 = (a - b)^2 + 4ab$

$(a - b)^2 = (a+b)^2 - 4ab$

$$a^2 + b^2 = (a+b)^2 - 2ab = (a-b)^2 + 2ab = \frac{1}{2}\{(a+b)^2 + (a-b)^2\}$$

$$ab = \left(\frac{a+b}{2}\right)^2 - \left(\frac{a-b}{2}\right)^2$$

$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3 = a^3 + b^3 + 3ab(a+b)$

$(a-b)^3 = a^3 - 3a^2b + 3ab^2 + b^3 = a^3 - b^3 + 3ab(a-b)$

$a^3 + b^3 = (a+b)^3 - 3ab(a+b) = (a+b)(a^2 - ab + b^2)$

$a^3 - b^3 = (a+b)^3 + 3ab(a-b) = (a-b)(a^2 + ab + b^2)$

$(a+b+c)^2 = a^2 + b^2 + c^2 + 2(ab+bc+ca)$

$a^3 + b^3 + c^3 - 3abc = (a+b+c)(a^2 + b^2 + c^2 - ab - bc - ca)$

$$= \frac{1}{2}(a+b+c)\{(a-b)^2 + (b-c)^2 + (c-a)^2\}$$

Equation: Equation একটি expression যার meaning হচ্ছে equal sign-এর L.H.S এবং R.H.S সমান।

Solution হচ্ছে equation-এ ব্যবহৃত variable টির বা variable গুলোর এক বা একাধিক মান যার জন্য equation টি প্রযোজ্য। Equation related তিন ধরনের Problem IBA Admission test-এ আসতে পারে।

Type 1: Univariable with power 1: এখানে একটি variable থাকবে যার Power হচ্ছে 1, variable টির মান নির্ণয় করতে হবে:

Step 1: equation-এ fraction থাকলে equation টি fraction এর denominator বা fraction গুলোর best common denominator দিয়ে গুণ করতে হবে।

Step 2: Variable বিশিষ্ট রাশিগুলো একদিকে এবং variable ছাড়া রাশিগুলো অন্যদিকে নিয়ে যোগ বিয়োগ করতে হবে।

Step 3: x কে coefficient মুক্ত করলে x এর মান পাওয়া যাবে।

Step 4: x এর নির্ণীত মানের জন্য equation ঠিক আছে কিনা অর্থাৎ শুদ্ধি পরীক্ষা করে দেখতে হবে।

Example: $\frac{x}{2} + \frac{x}{3} + \frac{x}{4} = 13$

$\Rightarrow 6x + 4x + 3x = 13 \times 12$

$\Rightarrow 13x = 13 \times 12$

$\Rightarrow x = 12$

$x = 12$ হলে L.H.S = 13 $\therefore$ মানটি প্রযোজ্য।

Type 2: Univariable with power more than 1: পূর্বের পদ্ধতি ব্যবহার করে equation-কে fraction মুক্ত করতে হবে অতঃপর term গুলোকে L.H.S-এ এনে R.H.S = 0 করতে হবে. L.H.S কে Factorize করে প্রত্যেকটি factor এর মান 0 ধরে Variable এর বিভিন্ন মান নির্ণয় করতে হবে এবং পরীক্ষা করতে হবে

Example: $x^2 + 5x = -6$

$\Rightarrow x^2 + 5x + 6 = 0$
$\Rightarrow (x + 2)(x + 3) = 0$
$\therefore x = -2$ or -3
$x = -2$ or $x = -3$ হলে L. H. S = R. H. S

$ax^2 + bx + c = 0$ আকারের equation factorize করা সম্ভব না হলে,

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ এই সূত্রটি ব্যবহার করতে হবে

Type 3: Equation with two variables: দুটি variable solve করতে দুটি equation প্রয়োজন হয় দুটি পদ্ধতিতে সহজেই solution বের করা যায়।

Example: $2x + y = 8$ .....(i)
$3x - 2y = 5$.....(ii)

$4x + 2y = 16$ [(i) x 2]
$3x - 2y = 5$
$7x = 21$
or, $x = 3$
$\therefore 2 \times 3 + y = 8$
$\therefore y = 2$
$\therefore (x, y) = (3, 2)$

System - 2

$2x + y = 8$.....(i)
or, $y = 8 - 2x$.....(iii)
(ii) এ $y = 8 - 2x$ বসিয়ে পাই-
$3x - 2(8 - 2x) = 5$
or, $7x = 21$
or, $x = 3$
(iii) এ $x = 3$ বসিয়ে পাই-
$y = 2$
$\therefore (x, y) = (3, 2)$

Review Exercise – 2

1. What is the value of the expression $\frac{a+b}{a-b}$ when $a=\frac{2}{3}$ and $b=\frac{5}{7}$?

(A) –29 (B) $-\frac{14}{15}$ (C) $-2\frac{1}{3}$ (D) –1 (E) 29

2. If x*y = x+xy+y for all numbers x and y, what is the value of z if 8*z = 3?

(A) –5 (B) $-\frac{5}{9}$ (C) $\frac{3}{8}$ (D) $\frac{5}{9}$ (E) 5

3. What is the value of (a+b) (a+b) if ab = 6 and $a^2+b^2=13$?

(A) 6 (B) 13 (C) 25 (D) 36 (E) 78

4. If x = -2, y = 3,and a = -1, what is the value of $\frac{3y^2-x^2}{\frac{1}{2}a^3}$?

(A) 0 (B) 1 (C) 8 (D) –8 (E) –46

5. For any number w, let #w# be denoted by the equation #w# = $-1[w^2 (w-1)]$. What is the value of # -1 #?

(A) -2 (B) -1 (C) 0 (D) 1 (E) 2

6. It abc ≠ 0, then $\frac{a^2bc+ab^2c+abc^2}{abc}$ =

(A) a+b+c (B) a+b+abc (C) $a^3b^3c^3$ (D) 3abc (E) 2abc

7. If $(t^2-1)/(t-1)=2$, what value(s) may 't' have?

(A) I only (B) –1 only (C) 1 or –1 (D) no value (E) any value

8. If the numerical value of $(m+n)^2$ and $(m-n)^2$ are equal, than which of the following must be true?

i. m + n = 0 ii. m – n = 0 iii. mn = 0

(A) I only (B) II only (C) III only (D) I and II only (E) None of these

9. It n > 4, which of the following is equivalent to $\frac{n-4\sqrt{n}+4}{\sqrt{n}-2}$?

(A) $\sqrt{n}$ (B) $2\sqrt{n}$ (C) $\sqrt{n}+2$ (D) $\sqrt{n}-2$ (E) $n+\sqrt{n}$

10. If $x^2+2x=15$, and x is non-negative, what is the value of x?

(A) 5 (B) 3 (C) -5 (D) -3 (E) None

11. For all real numbers x and y, it x * y = x(x – y), then x * (x * y) =

(A) x^2-xy (B) x^2-2xy (C) x^3-x^2-xy (D) $x^3-(xy)^2$ (E) $x^2-x^3+x^2y$

12. For all numbers, x # y = xy + y. It 3 # 2 = 7 # k, then k =

(A) 1 (B) 2 (C) 3 (D) 4 (E) $\frac{2}{7}$

13. In the formula $V=\pi r^2 h$, what is the value of r in terms of v and h?

(A) $\sqrt{v}/\pi h$ (B) $\pi(\sqrt{v}/\sqrt{h})$ (C) $\sqrt{\pi}\sqrt{h}$ (D) $\pi h/\sqrt{v}$ (E) $\sqrt{v}/\sqrt{(\pi h)}$

14. What is the largest possible value of the following expression
$(x+2)(3-x)(2+x)^2(2x-6)(2x+4)$
(A) - 56 (B) -24 (C) 0 (D) 12 (E) cannot be determined

15. Out of 7500 candidates, 75% are offered English and 45% are offered Maths. How many are offered both?
(A) 1000 (B) 1750 (C) 2000 (D) 1500 (E) 2500

16. For what value(s) of r is $(r^2+5r+6)/(r+2)$ equal to 0?
(A) –2 only (B) –3 only (C) 3 only (D) –2 or –3 (E) 2 or 3

17. In a survey it has found that 65% of the people polled watched the news on television, 40% read in a newspaper and 25% read a newspaper and watched the news on television. What percent of the people surveyed neither watched the news on television nor read a newspaper?
(A) 10% (B) 15% (C) 20% (D) 25% (E) 30%

18. If # $x = x^2 - x$ for all whole numbers, then # (# 3) =
(A) 2 (B) 30 (C) 58 (D) 2 (E) 121

19. If @ x denotes the greatest integer that is less than x, then @(- 0.1) + @ (0.1) =?
(A) -2 (B) -1 (C) 0 (D) 1 (E) 2

20. The lt $\frac{5v+4x}{3}=7$, then x =?
(A) $\frac{7-5v}{12}$ (B) $\frac{21-5v}{4}$ (C) $\frac{21-15v}{4}$ (D) $\frac{5v-21}{4}$ (E) $\frac{21}{5v}$

21. In MBA 45th batch of IBA, there are 120 students. Eighty of them play football, rest play basketball. Half of the students follow sports on TV and half follow in internet. If 45 of the students play football and follow sports on TV, how many of them play basketball and follow sports in internet?
(A) 15 (B) 25 (C) 35 (D) 40 (E) None

22. In a group of 15, 7 have studied Latin, 8 have studied Greek, and 3 have not studied either. How many of these have studied both?
(A) 0 (B) 2 (C) 3 (D) 5 (E) 7

23. If $y^2 + cy - 35 = 0$ and –7 is one solution of the equation, what is the value of c?
(A) 1 (B) 2 (C) 3 (D) 5 (E) Cannot be determined

24. For $2 \neq x \neq 0$, let (x) be defined (x) = $\frac{x}{x+\frac{1}{x}}$

What is the value of $\left(\frac{1}{2}\right)$?

(A) $\frac{1}{5}$ (B) $\frac{1}{2}$ (C) 2 (D) $2\frac{1}{2}$ (E) 5

25. $\frac{ca^2-cb^2}{-a-b}$ is equivalent to cb plus?
(A) ac (B) -ca (C) 1 (D) -1 (E) c

Answer keys

1. A	6. A	11. E	16. B	21. B
2. B	7. D	12. A	17. C	22. C
3. C	8. C	13. E	18. B	23. B
4. E	9. D	14. C	19. B	24. A
5. E	10. B	15. D	20. B	25. B

❖ CHAPTER OUTILINE

- ✓ Inequality
- ✓ Exponents
- ✓ Roots
- ✓ Progression

Inequality: Equation এ যেমন = sign ব্যবহার করে L.H.S এবং R.H.S সমান বলা হয়, inequality তে >, <, ≥ এবং ≤ sign ব্যবহার করে L.H.S কে R.H.S এর চেয়ে যথাক্রমে greater, less, greater or equal এবং less or equal বলা হয়। এক্ষেত্রে solve করে variable এর একটি particular value অথবা variable এর value-র একটি range পাওয়া যায়।

Equation solve করার basic পদ্ধতিতেই inequality solve করা যায়; শুধুমাত্র negative কোন value দিয়ে inequality কে multiply বা divide করলে অথবা both side কে reciprocal করলে sign change করতে হয়।

Basic Rules for Inequality: if $x > y$

(i) $x \pm a > y \pm a$

(ii) $cx > cy$ (when C is positive)

(iii) $^x/_c > {}^y/_c$ (when C is positive)

(iv) $cx < cy$ (when C is negative)

(v) $\frac{x}{c} < \frac{y}{c}$ (when C is negative)

(vi) $\frac{1}{x} < \frac{1}{y}$ (original inequality এর reciprocal)

(vii) $-x < -y$ [multiplied by -1]

if $x > y$ and $a > b$.

(viii) $x + a > y + b$

Example 1: $4(2 - x) < 3(3 - 2x)$

or, $8 - 4x < 9 - 6x$

or, $8 - 4x + 6x < 9 - 6x + 6x$ (উভয় পক্ষে 6x যোগ করে)

or, $8 + 2x - 8 < 9 - 8$

or, $2x < 1$

or, $x < {}^1/_2$

Example 2: $2(x - 3) < (x - 1)3$

or, $2x - 6 < 3x - 3$

or, $2x - 6 - 3x < 3x - 3 - 3x$ (উভয় পক্ষ থেকে 3x বিয়োগ করে)

or, $-x - 6 + 6 < -3 + 6$ (উভয় পক্ষে 6 যোগ করে)

or, $-x < 3$

or, $x > -3$

Exponents: $16 = 2 \times 2 \times 2 \times 2$. এখানে 16 চারটি 2 এর গুণফল। কথাটি mathematically, $16 = 2^4$ রূপে express করা যায়। এখানে 2 হচ্ছে base এবং 4 হচ্ছে 2 এর Power বা exponent.

Multiplication with Exponents

$2^2 \times 2^4 = 2^{2+4} = 2^6$

Expand করলে দেখা যায়,

$2^2 \times 2^4 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^6$

N.B $2^2 + 2^4 \neq 2^6$

Division with Exponents:

$2^6 \div 2^2 = 2^{6-2} = 2^4$

Expand করলে দেখা যায়,

$$2^6 \div 2^2 = \frac{2 \times 2 \times 2 \times 2 \times 2 \times 2}{2 \times 2} = 2^4$$

N.B. $2^6 - 2^2 \neq 2^4$

Exponents inside and outside the Parentheses:

$(4^3)^2 = 4^{3 \times 2} = 4^6$

Expand করলে দেখা যায়

$(4^3)^2 = 4^3 \times 4^3 = 4^6$

Particular Behavior of Exponents

i)	For $x > 1$	$x^3 > x^2 > x$	[e.g. $8 > 4 > 2$]
ii)	For $x = 1$	$x = x^2 = x^3$	[$1 = 1^2 = 1^3$]
iii)	For $0 < x < 1$	$x > x^2 > x^3$	[$0.5 > 0.25 > 0.125$]
iv)	For $-1 < x < 0$	$x^2 > x^3 > x$	[$0.25 > -0.125 > -0.5$]
v)	For $x < -1$	$x^2 > x > x^3$	[$4 > -2 > -8$]

এখানে x^2, x এর square (বর্গ) এবং x^3, x এর cube (ঘন)।

Negative Exponents: Negative exponent এর মান positive exponent এর reciprocal.

For example, $2^{-3} = \frac{1}{2^3} = \frac{1}{8} = 0.125$

Roots: $\sqrt{}$ sign এর মান হচ্ছে একটি সংখ্যার square root বা বর্গমূল। $\sqrt{2}$ হচ্ছে এমন একটি সংখ্যা যাকে square করলে 2 হবে, $\sqrt{}$ sign কে $\frac{1}{2}$ Power হিসাবেও লেখা হয়।

$\therefore \sqrt{x} = x^{1/2}$

N. B. $x^2 = 25$ হলে, $x = \pm 5$

কিন্তু, $\sqrt{25}$ এর মান বের করতে হলে, $\sqrt{25} = 5$ ধরতে হবে।

Other Roots: অন্যান্য root কে এভাবে লেখা যায়,

$\sqrt[n]{x}$ অর্থ হচ্ছে x এর n তম মূল।

Rules for exponents:

(i) $x^0 = 1$

(ii) $x^p \cdot x^q = x^{p+q}$

(iii) $x^p \div x^q = x^{p-q}$

(iv) $x^{-p} = \frac{1}{x^p}$ ($x \neq 0$, x is positive integer)

(v) $(x^p)^q = x^{pq}$

(vi) $(xy)^n = x^n y^n$

(vii) $\left(\frac{x}{y}\right)^n = \frac{x^n}{y^n}$

(viii) if $x^p = x^q$, p = q

(ix) if $x^p = y^p$ and P is odd x = y

(x) if $x^p = y^p$ and P is even $\pm x = \pm y$

$\sqrt{x}$	1	1.414	1.732	2	2.236	2.449	2.6746	2.828	3	3.162
x	1	2	3	4	5	6	7	8	9	10
x^2	1	4	9	16	25	36	49	64	81	100
x^3	1	8	27	64	125	216	343	512	729	1000
$\sqrt{x}$	3.317	3.464	3.606	3.742	3.873	4	4.123	4.243	4.359	4.472
x	11	12	13	14	15	16	17	18	19	20
x^2	121	144	169	196	225	256	289	324	361	400
x^3	1331	1728	2197	2744	3375	4096	4913	5832	6859	8000

N.B $\sqrt{5}, \sqrt{6}, \sqrt{7}, \sqrt{8}$ এর মান $\sqrt{4}$ =2 থেকে $\sqrt{9}$ =3 এর মাঝে প্রায় 2.2, 2.4, 2.6, 2.8 এভাবে বিভক্ত।

Progression: Progression দুই ধরনের ঃ

(i) Arithmetic Progression

(ii) Geometric Progression

(i) Arithmetic Progression: গাণিতিক প্রগমনে পাশাপাশি যে কোন দুটি term এর difference সমান।

(i) 5, 8, 11, 14 ..... common difference 3

(ii) 3 – 1, -5, -9 ..... common difference 4

(iii) $-2, -\frac{3}{4}+\frac{1}{2}$ ..... common difference $1\frac{1}{4}$

(iv) a, a + d, a + 2d ..... common difference d.

n^{th} term (A. P.) = a + (n – 1) d

এখানে, a = 1st term

d = Common difference

n = number of terms.

Sum (A.P.) = $\frac{n}{2}$ {2a + (n – 1) d}

Sum of first n positive integers = $\frac{n(n+1)}{2}$

Geometric Progression: এক্ষেত্রে পাশাপাশি দুটি term এর ratio সমান

(i) 3, 6, 12, 24 ..... common ratio = 2

(ii) 8, 4, 2, 1, $\frac{1}{2}$ ..... common ratio = $\frac{1}{2}$

(iii) 2, -10, +50 ..... common ratio – 5

(iv) a, ar, ar^2, ar^3 ..... common ratio r

n^{th} term (G. P) = ar^{n-1}

Sum (G. P) = $\frac{a(1-r^n)}{1-r}$ {when r < 1}

= $\frac{a(r^n-1)}{r-1}$ {when r > 1}

IBA admission test এ Geometric Progression খুব একটা important নয়।

Review Exercise – 3

1. $2^{10} + 2^{10} + 2^{10} + 2^{10} = ?$

(A) 20000 (B) 2^{40} (C) 2^{12} (D) 2^{100} (E) 2^{1000}

2. Which of the following represents the expression: $\sqrt{3.6 \times 10^9}$?

(A) 3.6×10^3 (B) 1.8×10^3 (C) 6×10^3 (D) 6×10^4 (E) None of these

3. If $\sqrt[4]{y} = 3$, then $\sqrt{y^4} = ?$

(A) $\sqrt{4}$ (B) $\sqrt{12}$ (C) 3^4 (D) 3^8 (E) 3^{16}

4. If $x > 0.7$, which of the following could be the value of x?

(A) $\sqrt{0.49}$ (B) $\sqrt{0.7}$ (C) $(0.7)^2$ (D) $(1 - \sqrt{0.2})$ (E) None of these

5. If $a < b$, which of the following must be positive?

(A) $a^2 - b^2$ (B) $b^2 - a^2$ (C) $a^3 - b^2$ (D) $b^2 - ab$ (E) None of these

6. $\frac{3.6x^4y}{0.9xy^4} = ?$

(A) $\frac{0.4x^3}{y^4}$ (B) $\frac{0.04x}{y^3}$ (C) $\frac{4x^3}{y^3}$ (D) $\frac{4y^3}{x^3}$ (E) $\frac{4x^4}{y^3}$

7. $2^{12} + 4^6 + 8^4 + 16^3 = ?$

(A) 2^{12} (B) 2^{14} (C) 2^{18} (D) 2^{24} (E) None

8. If $x^2y^2 + x^3y^4 = (3xy)^2$, then $xy^2 =$

(A) $1\frac{1}{2}$ (B) 4 (C) 8 (D) 16 (E) 64

9. Which of the following is not equal to 0.0675?

(A) 67.5×10^{-3} (B) 6.75×10^{-2} (C) 0.675×10^{-1}

(D) 0.00675×10^2 (E) 0.0000675×10^3

10. Which of the following is equal to 8^5?

I. $2^5 \times 4^5$ II. 2^{15} III. $2^5 \times 2^{10}$

(A) II only (B) I and II only (C) I and II only (D) II and III only (E) I, II and III

11. If $x^a + x^0 = 1$ and $x \neq \pm 1$, then $a + b = ?$

(A) x (B) –1 (C) 0 (D) 1 (E) Cannot be determined

12. If $a > b > c$, which of the following cannot be true?

(A) $b + c < a$ (B) $2a > b + c$ (C) $2c > a + b$

(D) $ab > bc$ (E) $a + b > 2b + c$

13. If $2 < r < 8$ and $1 < s < 5/2$, which of the following expresses all possible values for rs?

(A) $1<rs<5$ (B) $2<rs<20$ (C) $\frac{5}{2}<rs<8$ (D) $\frac{5}{2}<rs<20$ (E) $5<rs<10$

14. If a, b and c are consecutive non-positive integers and $a<b<c$, which of the following must be true?

I. $-a<-c$ II. $abc < 0$ III. abc is even

(A) None (B) II only (C) III only (D) II and III only (E) I, II and III

15. If $-100<x<y<0$, then which of the following has the greatest value?

(A) $y - x$ (B) $x + y$ (C) $x - y$ (D) x^3 (E) y^2

16. If x is a positive integer and $y > -2$, which of the following must be positive?

(A) $3x + 4y$ (B) $\frac{x+y}{y}$ (C) $\frac{2x+y}{x-y}$ (D) xy (E) None of these

17 If both 5^2 and 3^2 are factors of x, where $x = n \times 2^5 \times 6^2 \times 7^3$ what is the smallest possible positive value of n?

(A) 25 (B) 27 (C) 45 (D) 75 (E) None of these

18. $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}} = ?$

(A) $5+2\sqrt{6}$ (B) $\frac{5+2\sqrt{6}}{5}$ (C) $5-2\sqrt{6}$ (D) $\frac{5-2\sqrt{6}}{5}$ (E) None

19. What values may z have if $2z + 4$ is greater than $z-6$?

(A) any values greater than –10 (B) any values greater than –2

(C) any values less than 2 (D) any values less than 10

(E) none of these.

20. What is the next number in this series: 1, 5, 9, 13, __?

(A) 11 (B) 15 (C) 17 (D) 19 (E) 21

21. Which of the following equations have (has) only one integer solution?

I. $x + 9x = 0$ II. $x^2 + 9x = 0$ III. $x^3 + 9x = 0$

(A) I only (B) ii only (C) III only (D) I and III only (E) I, II and III

22. What is the simple average of 3^{30}, 3^{31}, 3^{32} ?

(A) 3^{31} (B) 13 (3^{29}) (C) 39 (3^{93}) (D) 13 (3^{30}) (E) None of these

23. If $x^2 - 9 < 0$, which of the following is true?

(A) $x < -3$ (B) $x > 3$ (C) $x > 9$ (D) $x < -3$ or $x > 3$ (E) $-3 < x < 3$

24. The first term of a sequence is –3 and every term after the first is 5 more than the term immediately preceding it. What is the value of the 101st term?

(A) 505 (B) 502 (C) 500 (D) 499 (E) 497

25. What is the next number in this series: 81, 27, 9, 3, __?

(A) 0 (B) 1 (C) 3 (D) 6 (E) None

Answer keys

1. C	6. C	11. E	16. E	21 D
2. D	7. B	12. C	17 A	22. B
3. D	8. C	13. B	18. A	23. E
4. B	9. D	14. D	19. A	24. E
5. E	10. E	15. A	20. C	25 B

CHAPTER OUTILINE

- Factors & Multiples
- HCF & LCM
- Fractions & Decimals

Factors: কোন একটি number যে সব number দিয়ে evenly divisible, সে সব number কে প্রথমোক্ত number টির factor বা গুণনীয়ক বলে।

Example : 1, 2, 4, 8 সংখ্যাগুলি হলো 16 এর factor

আবার, 1, 2, 3, 4, 6, 8, 12 হচ্ছে 24 এর factor.

Common Factors: উপরের example এ দেখা যাচ্ছে 1, 2, 4, 8 factor গুলো 16 এবং 24 এর common factor.

H.C.F (Highest Common Factor): Common factor গুলোর মধ্যে যে factor টির মান সবচেয়ে বেশি তাকে H.C.F বা ল.সা.গু বলে। 16 এবং 24 এর H.C.F হলো 8.

কিছু সংখ্যার H.C.F বের করতে হলে সংখ্যাগুলোকে factorize করতে হয় অর্থাৎ সর্বনিম্ন মানের factor গুলোর গুণফল হিসাবে প্রকাশ করতে হয়, অতঃপর common factor গুলোকে গুণ করলে H.C.F পাওয়া যায়।

Example: Find the H.C.F of 18, 24 and 32.

18=1 x 2 x 3 x 3, 24 = 1 x 2 x 2 x 2 x 3, 32 = 1 x 2 x 2 x 2 x 2 x 2

H.C.F=1x2=2

N.B. 1 সব number এরই factor। অতএব, কিছু সংখ্যার যদি কোন common factor না থাকে তবে 1 হবে সংখ্যাগুলোর H.C.F। H.C.F কে highest common divisor ও বলা যায়

Multiples: কোন একটি number দিয়ে যেসব number নিঃশেষে ভাগ করা যায়, সে সব number কে তার multiple বা গুণিতক বলা হয়।

Example: 12, 24, 36, 48, 60, 72 ... ইত্যাদি 12 এর কিছু multiple

এবং 18, 36, 54, 72 ইত্যাদি 18 এর কিছু multiple

Common Multiple: একাধিক number এর multiple গুলোর মধ্যে যেগুলো common তাদেরকে প্রথমোক্ত number গুলোর common multiple বলে।

Example: 36, 72, 108 ইত্যাদি 12 ও 18 এর কিছু common multiple.

L.C.M. (Least Common Multiple): Common multiple গুলোর মধ্যে সবচেয়ে ছোটটিকে ল.সা.গু বা L.C.M বলে। 12 এবং 18 এর L.C.M 36.

কিছু সংখ্যার L.C.M বের করতে হলে সংখ্যাগুলোকে Factorize করে, common ও uncommon factor গুলোকে গুণ করলে L.C.M পাওয়া যায়।

Example: Find the L.C.M of 18, 24 and 30

18 = 2 x 3 x 3, 24 = 2 x 2 x 2 x 3, 30 = 2 x 3 x 5

L.C.M = 2 x 2 x 2 x 3 x 3 x 5 = 360

Further Discusion on H.C.F and L.C.M:

1. দুটি সংখ্যার L.C.M ও H.C.F এর গুণফল সংখ্যা দুটির গুণফলের সমান

2. কিছু সংখ্যার L.C.M বের করার ক্ষেত্রে কোন সংখ্যা যদি অন্য সংখ্যার factor হয় তাহলে তা eliminate করা যায়

Example: Find the L.C.M of 9, 15, 18, 25

এক্ষেত্রে 9, 18 এর factor এবং 15 এর factor 3 ও 5, 18 ও 25 এর factor. 18 ও 25 এর L.C.M বের করলেই উত্তর পাওয়া যাবে.

3. কিছু সংখ্যার H.C.F বের করার ক্ষেত্রে একটি সংখ্যা অপর একটি সংখ্যার factor হলে, factor টি রেখে অপর সংখ্যা উপেক্ষা করা যায়।

Example: Find the H.C.F of 9, 18 and 21

এক্ষেত্রে 18 উপেক্ষা করে 9 ও 21 এবং H.C.F বের করলেই উত্তর পাওয়া যাবে.

4. যদি এমন কোন number নির্ণয় করতে বলা হয় যা কিছু number দিয়ে divisible তা হলে number গুলোর L.C.M বের করতে হবে।

Example: find the number which is divisible by 2, 3, 5 and 7

Ans.: 210.

5. যদি এমন কোন number বের করতে বলা হয় যা কিছু সংখ্যা দিয়ে ভাগ করলে প্রত্যেক ক্ষেত্রে একই remainder থাকে তবে L.C.M এর সাথে remainder যোগ করতে হবে।

Example: আগের Ans. এর সাথে 1 যোগ করে দিলে প্রত্যেক ক্ষেত্রে 1 remainder থাকবে।

6. প্রদত্ত number গুলোর সম ব্যবধানের কিছু remainder অবশিষ্ট থাকলে L.C.M থেকে ব্যবধান বিয়োগ করতে হবে।

Example: 210 থেকে 1 বিয়োগ করলে অর্থাৎ 209 কে 2, 3, 5, 7 দিয়ে ভাগ করলে যথাক্রমে 1, 2, 4, ও 6 অবশিষ্ট থাকবে (এক্ষেত্রে ব্যবধান 1)।

7. Highest কোন সংখ্যা যা দ্বারা কিছু সংখ্যা divisible বের করতে বললে H.C.F বের কতে হবে।

8. Fraction এর comparison বা addition বা Subtraction এর ক্ষেত্রে fraction গুলো একই denominator বিশিষ্ট (সমহর বিশিষ্ট) করতে হয়, সেক্ষেত্রে L.C.M ব্যবহার করে Least Common denominator (L.C.D) নির্ণয় করা হয়।

Fractions: A fraction (ভগ্নাংশ) is an indicated division. $\frac{1}{2}$ এর meaning হচ্ছে $1 \div 2$ । একটি fraction এর top number টিকে numerator (লব) এবং bottom number টিকে denominator (হর) বলে। কোন fraction এর numerator যদি denominator এর বড় হয় তবে faction টিকে improper fraction বলে। (e.g. $\frac{13}{7}$)

Mixed Number: Mixed number একটি improper fraction indicate করে যেখানে fraction টিকে একটি integer ও proper fraction এর sum হিসেবে দেখানো হয়। সহজেই mixed number কে fraction এ convert করা যায়।

Example: $3\frac{1}{3} = 3 + \frac{1}{4} = \frac{3\times4+1}{4} = \frac{13}{4}$

Equivalent Fractions: কোন fraction এর numerator ও denominator কে 0 ছাড়া অন্য কোন কিছু দিয়ে multiply করলে একই মানের একটি fraction বা equivalent fraction পাওয়া যায়।

Example: $\frac{a}{b}=\frac{a\times c}{b\times c}=\frac{ac}{bc}$ if $c\neq 0$

Signs of Fractions: Fraction এর sign, denominator এর sign এবং numerator এর sign এই তিনটির যে কোন দুটি sign change করা হলে fraction এর sign change হয় না।

Example: $\frac{a}{b}=+\frac{+a}{+b}=+\frac{-a}{-b}=-\frac{-a}{b}=-\frac{a}{-b}$

$$-\frac{a}{b}=-\frac{+a}{+b}=+\frac{-a}{+b}=+\frac{+a}{-b}=-\frac{-a}{-b}$$

Comparison, Addition and Subtraction of Fractions: কখনও কখনও fraction এর comparison করতে বলা হয় এবং মানের Ascending (increasing) order অথবা descending (decreasing) order-এ সাজাতে বলা হয়। এছাড়াও fraction এর addition বা subtraction –এর জন্য একটি common procedure follow করা হয়।

i) প্রথমে fraction গুলোর denominator গুলোর L.C.M অর্থাৎ L.C.D বা least common denominator নির্ণয় করা হয়।

ii) Fraction গুলোর equivalent fraction এমন ভাবে নির্ণয় করা হয় যেন সেগুলোর denominator L.C.D এর সমান হয়।

iii) এরপর নির্দেশিত Operation Complete করা হয়।

Example-1: Which one is greater $\frac{4}{5}$ or $\frac{5}{7}$

i) 5 ও 7 এর L.C.M অর্থাৎ fraction গুলোর L.C.D = 35

ii) $\frac{4}{5}=\frac{4\times 7}{5\times 7}=\frac{28}{35}; \frac{5}{7}=\frac{5\times 5}{7\times 5}=\frac{25}{35}$

iii) $\frac{28}{35}>\frac{25}{35}\ \because \frac{4}{5}>\frac{5}{7}$

একই ভাবে, $\frac{4}{5}-\frac{5}{7}=\frac{28}{35}-\frac{25}{35}=\frac{3}{35}$

এবং $\frac{4}{5}+\frac{5}{7}=\frac{53}{35}$

Multiplication: একাধিক fraction এর multiplication-এ numerator গুলোর Product কে denominator গুলোর product দিয়ে ভাগ করলে fraction এর product পাওয়া যায়। Multiplication-এ numerator এবং denominator এর common factor গুলো eliminate করা যায়।

Example: $\frac{ab}{c}\times\frac{d}{c}=\frac{abd}{ce}$

Division: Fraction এর division এর ক্ষেত্রে divisor কে invert করে অর্থাৎ reciprocal fraction (e.g $\frac{b}{a}$ is reciprocal of $\frac{a}{b}$) এর সাথে dividend কে multiply করতে হয়।

Example: $\frac{x+y}{x^2-xy}+\frac{1}{x^2-y^2}=\frac{x+y}{x(x-y)}\times\frac{(x+y)(x-y)}{1}=\frac{(x+y)^2}{x}$

L.C.M and H.C.F of fractions :

$$\text{L.C.M of Fractions} = \frac{\text{L.C.M of numerators}}{\text{H.C.F of denominators}}$$

$$\text{H.C.F of Fractions} = \frac{\text{H.C.F of numerators}}{\text{L.C.M of denominators}}$$

Reducing Fractions: Fractions এর numerator এবং denominator কে factor এর গুণফল হিসাবে express করে Cross out করলে fraction এর reduced form পাওয়া যায় :

$$\frac{16}{20}=\frac{2\times2\times2\times2}{2\times2\times5}=\frac{4}{5}$$

Further discussion on Fractions:

i) Positive Fraction এর numerator বাড়লে বা denominator কমলে বা দুটি একসাথে হলে fraction বড় হয় এবং বিপরীত ঘটনার ক্ষেত্রে ছোট হয়। Negative fraction এর ক্ষেত্রে ফলাফল positive fraction এর বিপরীত হয়।

ii) Proper Fraction এর numerator বা denominator কে একই পরিমানে বাড়ালে বা কমালে fraction এর মান যথাক্রমে বাড়ে এবং কমে : $\frac{1}{2}<\frac{99}{100}$

iii) Fraction এর denominator কখন 0 নয় কেননা, $\frac{x}{0}$ expression টি mathematically define করা সম্ভব না।

Anything divided by zero (0) is undefined.

Decimals: Decimal এবং fraction একই term express করার দুটি ভিন্ন পদ্ধতি। প্রত্যেকটি fraction কে সহজেই decimal-এ এবং decimal কে fraction-এ convert করা যায়।

Conversion:

i) Fraction কে decimal-এ convert করতে হলে numerator কে denominator দিয়ে ভাগ করতে হয়: $\frac{3}{4}=3\div4=0.75$

ii) Decimal কে fraction এ convert করতে হলে দশমিকের জন্য 1 এবং 1 এর ডানে দশমিকের ডান দিকে পদসংখ্যার সমান সংখ্যক 0 নিয়ে denominator এবং দশমিক eliminate করে সংখ্যাটিকে numerator count করে fraction গঠন করা হয়।

$$0.75=\frac{75}{100}=\frac{3\times25}{4\times25}=\frac{3}{4}$$

Operation of decimals: decimal এর comparison, addition এবং subtraction integer-এর addition বা subtraction এর procedure-এই করা যায়। একটি column-এ সাজিয়ে নিলে যোগ বা বিয়োগ করা সহজ হয়।

Multiplying Decimals: সাধারণভাবে গুণ করার পর tricky part হচ্ছে decimal point বসানো। যে সব সংখ্যা গুণ করা হচ্ছে তাদের decimal point এর পর মোট যতগুলো সংখ্যা আছে solution -এ decimal point এরপর ঠিক ততগুলো সংখ্যা থাকবে ঃ

$$\begin{array}{r} 3.451 \\ \times\ 8.9 \\ \hline 30.7139 \end{array}$$

যদি 5 এবং কোন even number, যে সংখ্যাগুলো গুণ করা হচ্ছে তাদের ডানে থাকে তাহলে solution এর ডান দিকে 0 থাকবে, ডানে অন্য কোন digit না থাকলে decimal এর পর 0 থাকা না থাকা একই কথা। এক্ষেত্রে 0 বাদ দিলে solution এর decimal point-এর পর সংখ্যা একটি কমে যাবে ঃ

$$\begin{array}{r} 0.125 \\ \times\ .2 \\ \hline 0.025 \end{array} = 0.0250 = 0.025$$

Dividing Decimals: ভাগ করার আগে dividend এবং divisor কে fraction এ convert করতে হবে ঃ

$$\frac{.25}{.05} = \frac{25}{100} \div \frac{5}{100} = \frac{25 \times 100}{100 \times 5} = 5$$

N.B: 10 বা 100 বা 1000 দিয়ে গুন করলে decimal point যথাক্রমে 1 বা 2 বা 3 place ডানে এবং ভাগ করলে বামে সরে যাবে ঃ

$$\frac{250.3}{10} = 25.03$$

$$250.3 \times 10 = 2503$$

Review Exercise – 4

1. Which of the following fractions is closest to $\frac{1}{4}$?

(A) $\frac{1}{5}$ (B) $\frac{3}{10}$ (C) $\frac{3}{20}$ (D) $\frac{7}{20}$ (E) $\frac{4}{15}$

2. 2 pints = 1 quart; 4 quarts = 1 gallon. What part of a gallon is 6 pints?

(A) $\frac{1}{6}$ (B) $\frac{2}{3}$ (C) $\frac{3}{4}$ (D) $\frac{4}{3}$ (E) $\frac{3}{2}$

3. A paints $\frac{1}{4}$ of barn and B paints $\frac{1}{8}$ of the remainder. What fraction of the barn is left unpainted?

(A) $\frac{1}{32}$ (B) $\frac{11}{32}$ (C) $\frac{21}{32}$ (D) $\frac{29}{32}$ (E) $\frac{23}{32}$

4. When the price of an article is reduced by $\frac{2}{7}$ of its former value, the number of articles sold is increased to $\frac{21}{10}$ of the original amount. The daily receipts are what fraction of the former?

(A) $\frac{3}{5}$ (B) $1\frac{1}{2}$ (C) $1\frac{2}{3}$ (D) $2\frac{2}{5}$ (E) $2\frac{1}{2}$

5. Auntu is 4 times as old as Paul and $1\frac{1}{2}$ times as old as Mary. What fraction of Paul's age is Mary's age?

(A) $\frac{3}{8}$ (B) $2\frac{2}{3}$ (C) $3\frac{3}{4}$ (D) 6 (E) $6\frac{1}{2}$

6. A baseball team won w games and lost 1 game. What fractional part of its games did it win?

(A) $\frac{1}{w}$ (B) $\frac{w-1}{w}$ (C) $\frac{w}{1}$ (D) $\frac{w+1}{w}$ (E) $\frac{w}{w+1}$

7. Which of the following is less than $\frac{1}{6}$?

(A) 0.1667 (B) $\frac{3}{18}$ (C) 0.167 (D) 0.1665 (E) $\frac{8}{47}$

8. In which of the following lists, three fractions are in ascending order?

(A) $\frac{9}{36}, \frac{1}{4}, \frac{3}{10}$ (B) $\frac{1}{4}, \frac{9}{26}, \frac{3}{10}$ (C) $\frac{1}{4}, \frac{3}{10}, \frac{9}{26}$

(D) $\frac{9}{26}, \frac{3}{10}, \frac{1}{4}$ (E) $\frac{3}{10}, \frac{9}{26}, \frac{1}{4}$

9. For which of the following expressions would the value be greater if 160 were replaced by 120?

I. $1000 - 160$ II. $\frac{160}{1+160}$ III. $\frac{1}{1-\frac{1}{160}}$

(A) None (B) I only (C) III only (D) I and II (E) I and III

10. What is the greatest integer that will divide both 36 and 54 evenly?

(A) 6 (B) 9 (C) 18 (D) 24 (E) 36

11. What is the smallest integer greater than 1 that leaves a remainder of 1 when divide by 6, 8 and 10?

(A) 61 (B) 49 (C) 81 (D) 119 (E) 121

12. In the repeating decimal 0.097531097531 ..... what is the 44th digit to the right of the decimal point?

(A) 1 (B) 0 (C) 9 (D) 7 (E) 5

13. A wire is cut into three equal parts. The resulting segments are then cut into 4, 6 and 8 equal parts respectively. If each of the resulting segments has an integer length, what is the minimum length of the wire?

(A) 24 (B) 48 (C) 72 (D) 96 (E) 144

14. In a certain class, $\frac{1}{2}$ of the male students and $\frac{2}{3}$ of the female students speak French. If there are $\frac{3}{4}$ as many girls as boys, what fraction of the entire class speaks French?

(A) $\frac{4}{7}$ (B) $\frac{3}{4}$ (C) $\frac{1}{4}$ (D) $\frac{2}{3}$ (E) $\frac{4}{5}$

15. What is the smallest positive integer that is evenly divisible by both 21 and 9?

(A) 189 (B) 126 (C) 63 (D) 42 (E) 21

16. Filling each of five cars with the same amount of fuel empties three-forth of a gasoline storage tank. What part of the total capacity did each vehicle receive?

(A) $\frac{1}{5}$ (B) $\frac{1}{10}$ (C) $\frac{2}{15}$ (D) $\frac{3}{20}$ (E) $\frac{4}{15}$

17. A gasoline tank that is $\frac{1}{2}$ full has 8 gallons removed. The tank is then $\frac{1}{10}$ full. What is the capacity, in gallons, of the tank?

(A) 2.5 (B) 6.4 (C) 15.8 (D) 20 (E) 40

18. A motion was adopted by a vote of 5 to 3. What part of the total vote was against the motion?

(A) $\frac{3}{8}$ (B) $\frac{3}{5}$ (C) $\frac{5}{8}$ (D) $\frac{5}{3}$ (E) $\frac{8}{5}$

19. You have 18 apples, 27 mangoes and 54 bananas. You want to divide each kind of fruit equally among the same number of children so that no fruit remains left. What is the maximum number of children who might get the fruit?
(A) 3 (B) 6 (C) 9 (D) 18 (E) None of these

20. Which of the following fractions is the greatest?
(A) $\frac{401}{134}$ (B) $\frac{79}{26}$ (C) $\frac{527}{176}$ (D) $\frac{218}{73}$ (E) $\frac{99}{34}$

21. $\frac{4}{n}, \frac{5}{n}$ and $\frac{7}{n}$ are fractions in simplest reduced form. Which of the following could be the value of n?
(A) 24 (B) 25 (C) 26 (D) 27 (E) 28

22. What is the least number which when divided by 3, 4 and 5 leaves remainders of 1, 2 and 3 respectively?
(A) 59 (B) 58 (C) 116 (D) 118 (E) 67

23. If x, y, z are positive integers and $4x = 3y = 5z$, then what is the smallest value of $x + y + z$?
(A) 12 (B) 47 (C) 60 (D) 94 (E) Cannot be determined

24. In a graduating class with same number of boys and of girls, $\frac{1}{8}$ of the girls and $\frac{5}{6}$ of the boys are honors students. What part of the class consists of boys who are not honors students?
(A) $\frac{1}{12}$ (B) $\frac{1}{6}$ (C) $\frac{7}{48}$ (D) $\frac{13}{48}$ (E) $\frac{35}{48}$

25. Riyad owned $\frac{5}{8}$ of an interest in a house. He sold $\frac{1}{5}$ of his interest for \$1,000. What was the total value of the house?
(A) \$ 3000 (B) \$4000 (C) \$6000 (D) \$8000 (E) \$60000

Answer keys

1. E	6. E	11. E	.16. D	21. D
2. C	7. D	12. C	17. D	22. B
3. C	8. C	13. C	18. A	23. B
4. B	9. E	14. A	19. C	24. A
5. B	10. C	15. C	20. B	25. D

Arithmetic Review

- Ratio, Proportion, Unitary System, Work-done Problems.
- Percentage, Deviation, Profit - Loss, Mark-up, Mark-down, Discount, Successive Discount, Simple & Compound Interest.
- Average / Mean, Median, Mode, Face Value of Currencies.
- Speed - Distance - Time, Rowing Boat - Current - Speed, Train & Speed, Comparing Travelled Distances.
- Mixture, Solution.
- Permutation, Combination, Probability.

❖ **CHAPTER OUTILINE**

- ✓ **Ratio**
- ✓ **Proportion**
- ✓ **Unitary System**
- ✓ **Work-done Problems**

Ratio: Ratio বা অনুপাত একটি expression যার সাহায্যে একটি সংখ্যাকে আরেকটি সংখ্যা দিয়ে ভাগ করে সংখ্যা দুটিকে তুলনা করা হয়। IBA admission test- এ ratio, proportion, unitary system related problem খুবই important.

Example: In a class of 10 girls and 15 boys.

Ratio of girls to boys is 10:15 = $\frac{10}{15} = \frac{2}{3}$ or 2:3

Ratio of boys to girls is 15:10 = $\frac{15}{10} = \frac{3}{2}$ or 3:2

এখানে ratio দুটি part to part ratio কেননা এখানে class এর একটি part এর সাথে আরেকটি part compare করা হয়েছে। Class এর total এর সাথে no. of boys or no. of girls compare করলে whole to part or part to whole ratio পাওয়া যাবে।

Ratio of girls to class = 10: 25 = $\frac{10}{25} = \frac{2}{5}$ or 2: 5

N.B. i) Ratio নির্ণয় করতে হলে রাশি দুটি একই type এর হতে হবে, রাশি দুটির Unit একই থাকতে হবে ।

ii) Ratio কে fraction আকারে express করা যায়।

iii) Ratio কে fraction এর reduced form এ express করা হয় অর্থাৎ সংখ্যা দুটির common factor cross out করা হয়।

iv) Ratio reduced form এ সাধারণত দুটি integer এর comparison show করে।

v) No. of girls- np এবং no. of boys- nq হলে class total = np + nq

or T = n (p + q), এখানে T, n (p+q) দ্বারা evenly divisible, অর্থাৎ boys : girls = 3 : 2 হলে Total no. of students অবশ্যই (3+2) = 5 দ্বারা divisible.

Examples:

I) The ratio of two numbers is 16:35. The larger number is 280. Find the smaller.

Let common factor = n

35n = 280 or, n = 8

16n = 128 (The smaller number)

II) Two numbers are in the ratio 5: 8. When 2 is added to each, the ratio of resulting numbers is 2: 3. Find the numbers.

$\frac{5n+2}{8n+2} = \frac{2}{3}$

or, n = 2

So the numbers are 10 and 16.

Proportion: Proportion একটি equation যার দুটি side-ই fraction.

e.g. $\frac{1}{5} = \frac{15}{75}$ একটি proportion। একটি proportion এ চারটি term থাকে।

e.g. a : b = c : d ; এখানে a ও d extreme value এবং b ও c mean value. Proportion এর mean দুটির product, extreme দুটির product এর সমান।

a : b = c : d হলে

$\frac{a}{b} = \frac{c}{d}$ এবং

ad = bc এবং $\frac{a}{b} = \frac{c}{d} = \frac{a+c}{b+d}$

কোন problem এ চারটি term যদি proportionate হয় এবং term গুলোর মধ্যে দুটি variable থাকে যার একটি change হলে অন্যটিও change হয় তাহলে problem টি proportion ব্যবহার করে solve করা যায়। variable দুটির relation দুই type এর হতে পারে।

i) Direct proportion
ii) Inverse proportion

Direct proportion: Direct proportion এ x ও y variable দুটির একটি increase করলে অপরটি increase এবং একটি decrease করলে অপরটি decrease করবে অর্থাৎ $\frac{x}{y} = K$ (constant) অর্থাৎ x কে কোন number দিয়ে multiply বা divide করলে y কে same number দিয়েই respectively multiply এবং divide করতে হবে।

Conversion (Dollar to taka-money exchange) বা mile to kilometer-unit exchange), work problem-input-output relation (time বা worker এর সংখ্যার সাথে work done এর relation), business problem (Partnership-এ investment এবং profit-এর share), recipe problem (ingredients এবং quantity) এবং geometric problem-এ similar triangles এর sides direct proportion-এ related.

Inverse proportion: Inverse proportion এর ক্ষেত্রে xy = K (constant) অর্থাৎ একটি increase বা decrease করলে অপরটি respectively decrease বা increase করবে।

Input to input relation (worker এর সংখ্যা এবং time required), number of survivors to days survived (with limited food) ইত্যাদি inverse proportion-এ related.

N.B. Ratio এবং Proportion এর Problem গুলো সাধারণত Unitary System এ solve করা যায়। Direct এবং Inverse relation এর complexity avoid করার tool হচ্ছে common sense.

Unitary System: Arithmetical problems solve করার বিভিন্ন tools (ratio, proportion, percentage, rate, spend ইত্যাদি) গুলোর -base হচ্ছে Unitary System বা ঐকিক পদ্ধতি । Unitary System -এ given value থেকে Unit value বা ঐকিক মান এবং তা থেকে desired solution নির্ণয় করা হয়।

Example:

I) If the cost of 1-hour call is Tk. 72. What would be the cost of a ten-minute call at the same rate?

Solution: Cost of a 60 m call = 72 tk

Cost of a 1m call $= \frac{72}{60}$ tk

Cost of a 10 m call = $\frac{72\times10}{60}$ tk = 12 tk.

এই example টিতে দুটি quantity-র relation দেখানো হলো। Relation আরো বেশি quantity-র জন্য extend করা যায়। একটি ভাবে যে quantity নির্ণয় করতে হবে তাকে most right side -এ রাখতে হবে।

ii) If 30 men can survive 3 days with 90 cans of food, how many men can survive 2 days with 180 cans of food?

Solution:

3 days..... 90 cans..... 30 men

1 day..... 1 can..... $\frac{30\times3}{90}$ men

2 days.....180 cans.... $\frac{30\times3\times180}{90\times2}$ men

= 90 men

Work-done Problems: Work-done problem solve করতে Fraction of time এবং rate of work use করতে হয়। Fraction of work এর একটি simple formula:

$$\frac{\text{Time spent working}}{\text{Time required to do job}} = \text{Fractional part of job done in that time}$$

একটি worker এর rate of work হচ্ছে সে unit time এ কতটুকু কাজ করতে পারে তার পরিমাপ।

$$\text{Rate} = \frac{\text{Total work}}{\text{Total time}} = \frac{\text{fractional work (1)}}{\text{fractional time (1)}} = \frac{\textit{fractional work (2)}}{\textit{fractional time (2)}}$$

এই Proportion ব্যবহার করে fractional work-এর Problem solve করা যায়।

যখন একাধিক worker অথবা machine একসাথে কাজ করে তখন তাদের rate of work add করে group rate determine করতে হয় অর্থাৎ group এর unit time-এ completed work হবে individual worker দের unit time এ completed work এর যোগফল।

Example: Mr. Asif can do a job in 10 days. After working 3 days, he hires a helper and the two of them complete the job in another 5 days. How long would it have taken the helper to complete the task alone?

Solution: Mr. Asif এর rate $\frac{1}{10}$ অর্থাৎ সে একদিন কাজ করে job এর one-tenth complete করে। তার 8 দিনের (3+5) কাজ, total work '1' থেকে subtract করলে helper এর 5 দিনের কাজ পাওয়া যাবে। যা হবে $(1 - \frac{8}{10}) = \frac{2}{10}$.

বাকিটুকু Unitary System-এ solve করা যায়।

অথবা, worker যদি x দিনে কাজটি করে,

$$\frac{3}{10} + \frac{5}{10} + \frac{5}{x} = 1$$

$$3x + 5x + 50 = 10x$$

$$x = 25 \text{ (Ans.)}$$

Review Exercise – 1

1. Riyad can complete an assignment in 2 hours while Omar can do the same assignment in 3 hours. They worked together for an hour, after which Riyad left and Omar had to finish the rest of the work alone. How much time in minutes will Omar require to finish the rest of the work?

   A) 15 B) 20 C) 25 D) 30 E) None of these

2. If 3 apples cost 19 cents, how many apples can be purchased for $1.52?

   A) 15 B) 19 C) 22 D) 24 E) 26

3. Candy previously sold for $1.60 per pound is now offered for 48 cents in a 6 ounce package. What is the ratio of former price to present price?

   A) 3:1 B) 5:4 C) 10:3 D) 3:10 E) 4:5

4. Auntu makes a diagram of a plane to scale of $\frac{1}{400}$ of actual size. If the diagram of the plane is 9.6 inches in length, what is the length, in feet, of the plane?

   A) 96 B) 320 C) 384 D) 960 E) 3,840

5. On a map drawn to the scale $\frac{1}{2}$ inch = 200 miles, what is the distance, in miles, between two cities those are $3\frac{1}{2}$ inches apart on the map?

   A) 300 B) 350 C) 700 D) 1,200 E) 1,400

6. A jar contains black and white marbles. If there are 30 marbles in the jar, all of the following could be the ratio of black to white marbles EXCEPT:

   A) 9:1 B) 7:3 C) 1:1 D) 1:4 E) 1:10

7. A vertical Pole 6 feet high casts a shadow 4 feet long. At the same time a tree casts a shadow 64 feet long. What is the height, in feet, of the tree?

   A) 44 B) 72 C) 96 D) 192 E) 256

8. If 2 cups of melted chocolate weigh 16 ounces, how many cups of melted chocolate can be obtained from a package of chocolate weighing 1 pound 8 ounces?

   A) 2.2 B) 3 C) 3.2 D) 4 E) 4.4

9. If $\frac{1}{3}$ of the girls at a school equals $\frac{1}{5}$ of the total number of students, then what is the ratio of girls to boys at that school?

   A) 5:3 B) 3:2 C) 2:5 D) 1:3 E) 1:5

10. The ratio of the number of boys to the number of girls in Mentors' is 5:4. If total number of students in Mentors' at present is 72, how many girls should join to make the ratio 1:2?

    A) 100 B) 96 C) 48 D) 210 E) None of these

11. If cards are sold at the rate of 3 for 10c, what will be the cost of 3-dozen such cards?

    A) $0.42 B) $1.08 C) $1.20 D) $1.26 E) $1.44

12. 7 workers can dig a canal in 14 weeks by working 8 hours daily. In how many weeks, 14 workers can do the same work by working 7 hours daily?

    A) 12 B) 9 C) 8 D) 7 E) None of these

13. How many inches long is the shadow of an R-foot pole, if an r-inch-ruler casts an s-inch shadow at the same time?

A) $\frac{12Rs}{r}$ B) $\frac{Rs}{r}$ C) $\frac{Rs}{12r}$ D) $\frac{12R}{rs}$ E) $\frac{rs}{12}$

14. On a map, 1 inch represents 1000 miles. If the area of a country is actually 16 million square miles, what is the area of the country's representation on the map?

A) 4 sq. inches B) 16 sq. inches C) 4,000 sq. inches
D) 16,000 sq. inches E) 4×10^6 sq. inches

15. In Gulshan the ratio of private homes to apartment is 3:5. If all the apartments are brick made and $\frac{1}{6}$ of the private homes are wooden, what is the maximum portion of houses that maybe brick made?

A) $\frac{3}{8}$ B) $\frac{5}{8}$ C) $\frac{6}{13}$ D) $\frac{8}{13}$ E) $\frac{15}{16}$

16. At a certain firm, d gallons of fuel are needed per day for each truck. At this rate, g gallons of fuel will supply t trucks for how many days?

A) $\frac{dt}{g}$ B) $\frac{gt}{d}$ C) dgt D) $\frac{t}{dg}$ E) $\frac{g}{dt}$

17. Faucet A lets water flow into a 5-gallon tub at a rate of 1.5 gallons per minute. Faucet B lets water flow into the same tub at a rate of 1.0 gallons per minute. Faucets A runs alone for 100 seconds; then both of them together finish filing up the tub. How long does the whole operation take?

A) 120 sec B) 150 sec C) 160 sec D) 180 sec E) 190 sec

18. A and B can paint a wall in 3 days. A can do it alone in 5 days. How many days would it take B to do the job alone?

A) 0.2 B) 3.2 C) 5.0 D) 6.4 E) 7.5

19. A machine can cut some wood in 6 minutes, and a man using a hand-saw can do it in 18 minutes. After working alone for 4 minutes, the machine broke down. How many minutes must the man work alone to complete the remaining task?

A) 12 B) 6 C) 12 D) 14 E) 18

20. Three pipes are used to fill a pool with water. Individually they can fill the pool in 9 hours, 6 hours and 3 hours respectively. How many minutes will it take to fill the pool if all three pipes are used simultaneously?

A) 1.63 B) 11 C) 54 D) 56.4 E) 98

21. A 12-gallon tub has a faucet that lets water in at a rate of 3 gallons per minute, and has a drain that lets water out at a rate of 1.5 gallons per minute. If you start with 3 gallons of water in the tub, how long will it take to fill the tub completely?

A) 3 minutes B) 4 minutes C) 6 minutes D) 7.5 minutes E) 8 minutes

22. Mr. Nafis can mosaic his lawn in x hours. After 2 hours it begins to rain. What part of the lawn is left non-mosaic?

A) $\frac{2-x}{x}$ B) $\frac{x}{2}$ C) x-2 D) $\frac{x-2}{2}$ E) $\frac{x-2}{x}$

23. A regular postal clerk sorts 100 letters in C seconds, while a part time worker requires P seconds to sort 100 letters. How many seconds will they require to sort 100 letters working together?

A) $\frac{P+C}{2}$ B) $\frac{P+C}{PC}$ C) $\frac{PC}{P+C}$ D) $\frac{100(P+C)}{PC}$ E) $\frac{100PC}{P+C}$

24. Mrs. Lisa can make the dinner dishes in $\frac{1}{4}$ hour, while her daughter Naina can make in $\frac{1}{2}$ hour. What part of an hour would it take if they work together?

A) $\frac{1}{8}$ B) $\frac{1}{6}$ C) $\frac{3}{16}$ D) $\frac{3}{8}$ E) $\frac{4}{3}$

25. Mr. Shihab mowed $\frac{3}{4}$ of his lawn in $1\frac{1}{4}$ hours. Mr. Ashiq, who works twice as fast, then started the remaining work and finished it. How many minutes did Mr. Ashiq work?

A) $12\frac{1}{2}$ B) 16 C) 25 D) 38 E) 50

Answer keys

1. D	6. E	11. C	16. E	21. C
2. D	7. C	12. C	17. C	22. E
3. B	8. B	13. A	18. E	23. C
4. B	9. B	14. B	19. B	24. B
5. E	10. C	15. E	20. E	25. A

❖ **CHAPTER OUTILINE**

- ✓ **Percentage, Deviation**
- ✓ **Profit, Loss**
- ✓ **Mark -Up, Mark -Down**
- ✓ **Discount, Successive Discount**
- ✓ **Simple & Compound Interest**

Percentage: Percent একটি fraction যার denominator 100. এক্ষেত্রে denominator না লিখে % sign ব্যবহার করা হয়। IBA admission test- এ percentage related problem খুবই important.

Conversions: Percent কে fraction-এ convert করতে হলে '%' sign এর পরিবর্তে সংখ্যার সাথে $\frac{1}{100}$ multiply করতে হবে।

Example: $22\% = 22 \times \frac{1}{100} = \frac{11}{50}$

Decimal-এ convert করতে হলে decimal point দুই ঘর left এ সরাতে হবে। এবং '%' sign eliminate করতে হবে।

Example: $22\% = 0.22$

কিছু Percent-এর simplified fraction মনে থাকলে অনেক lengthy calculation avoid করা যায়:

$33\frac{1}{3}\% = \frac{1}{3}$	$20\% = \frac{1}{5}$	$83\frac{1}{3}\% = \frac{5}{6}$
$66\frac{2}{3}\% = \frac{2}{3}$	$40\% = \frac{2}{5}$	$12\frac{1}{2}\% = \frac{1}{8}$
$25\% = \frac{1}{4}$	$60\% = \frac{3}{5}$	$100\% = 1$
$50\% = \frac{1}{2}$	$80\% = \frac{4}{5}$	$200\% = 2$
$75\% = \frac{3}{4}$	$16\frac{2}{3}\% = \frac{1}{6}$	$250\% = 2\frac{1}{2}$

Fraction কে percent-এ convert করতে হলে, fraction কে 100 দিয়ে multiply করে '%' sign ব্যবহার করতে হবে।

Example: $\frac{3}{25} = \frac{3}{25} \times 100\% = 12\%$

Decimal কে percent-এ convert করতে হলে decimal point 2 ঘর right-এ সরিয়ে '%' sign ব্যবহার করতে হবে।

$0.70 = 70\%$

Percent নিয়ে basic problem তিন type এর।

(I) x is what percent of y?

(II) What is z percent of y?

(III) x is z percent of which number?

Example:

(I) 2 is what percent of 5?

(এই question এর অর্থ - একটি number 5 হলে অপরটি 2. এখন 5 যদি 100 হয়, 2 কত হবে?)

Solution: $\frac{2\times100}{5}\% = 40\%$

(II) What is 40% of 5?.

(এই question এর অর্থ - একটি number 100 হলে অপরটি 40. এখন 100 যদি 5 হয়, 40 কত হবে?)

Solution: $\frac{40\times5}{100} = 2$

(III) 2 is 40% of which number?

(এই question এর অর্থ - একটি number 40 হলে অপরটি 100. এখন 40 যদি 2 হয়, 100 কত হবে?)

Solution: $\frac{100\times2}{40} = 5$

N.B. word problem-এ percentage বের করতে হলে মনে রাখবেন percent হচ্ছে $\frac{is}{of}$

Percent Increase / decrease:

Percent increase অথবা decrease বের করতে হলে এই formula ব্যবহার করতে হবে।

$$\text{Percent increase / decrease} = \frac{\text{number increase / decrease}}{\text{Original total}}$$

Example: In 1998, the population of Dhaka city was 80 thousand and in 1999 it is 100 thousand. What is the percent increase of the population of Dhaka City?

Solution: $\frac{\text{new population} - \text{original population}}{\text{original population}}$

$$= \frac{(100-80)\text{ thousand}}{80\text{ thousand}}$$

$$= \frac{1}{4}$$

$$= \frac{1}{4} \times 100\% = 25\%$$

N.B. 20 thousand increase original population 80 thousand এর $\frac{1}{4}$ এবং $\frac{1}{4}$ মানে 25%।

Percent Deviation: Percent deviation অনেকটা percent increase / decrease এর মতো। Estimated amount এবং actual amount এর মধ্যে difference থাকলে percent deviation বের করা হয়।

$$\text{Percent deviation} = \frac{\text{estimated amount} - \text{actual amount}}{\text{actual amount}}$$

N.B.'–' sign এর অর্থ হচ্ছে, greater term থেকে smaller term subtract করতে হবে অর্থাৎ দুটি রাশির positive difference (absolute value) count করতে হবে।

Example: An entrepreneur initially estimated the cost of a new venture to be 1,20,000 Tk but the actual cost of incorporation was 1,00,000 Tk. what was the percent deviation of his estimation?

Solution:

$$\text{Deviation} = \frac{(1,20,000 - 1,00,000)\text{ Tk.}}{1,00,00\text{ Tk.}}$$

$$= \frac{1}{5} = \frac{1}{5} \times 100\% = 20\%$$

N.B. Question যদি হতো what was the percent deviation of actual cost from his estimation? তাহলে,

$$\text{Deviation} = \frac{(1,20,000 - 1,00,000)\text{ Tk.}}{1,20,00\text{ Tk.}}$$

$$= \frac{1}{6} = \frac{1}{6} \times 100\% = 16\frac{2}{3}\%$$

Adjustments to get original price:

কোন কিছুর price increase/decrease করার পর original price-এ back করতে হলে price একই amount-এ respectively decrease/increase করতে হবে। e.g. একটি shirt-এর price Tk. 400 থেকে increase করে Tk. 500 হলে original price-এ back করতে হলে new price থেকে Tk.100 কমাতে হবে। যদিও টাকার পরিমান সমান, initial increase /decrease এর percentage এবং adjustment এর percentage different হবে কেননা এই percentage দুটি যথাক্রমে original price এবং new price এর উপর base করে নির্ণয় করা হয়।

Example: The price of a shirt was Tk. 400. It is increased by 25%. By what percent it should be discounted to get the original price?

Solution:

$$\text{Increase in price} = 25\% \text{ of } 400 = \frac{1}{4} \times 400 = 100$$

New price = 500

$$\text{Percent decrease} = 100 \text{ out of } 500 = \frac{1}{5} = \frac{1}{5} \times 100\% = 20\% \text{ (Ans.)}$$

N.B. (i) Initial price যাই হোক না কেন, price 25% increase করলে, original price পেতে হলে price 20% discount করতে হবে।

(ii) Initial price যাই হোক না কেন, price 20% decrease করলে, original price পেতে হলে price 25% increase করতে হবে।

নীচের table এ কিছু corresponding percentage দেয়া আছে। এই percentage গুলো মনে থাকলে actual amount নির্ণয় না করেই problem solve করা যাবে।

% increase	20% or $\frac{1}{5}$	25% or $\frac{1}{4}$	33% or $\frac{1}{3}$	50% or $\frac{1}{2}$	100% or $\frac{1}{1}$
% decrease	16.67% or $\frac{1}{6}$	20% or $\frac{1}{5}$	25% or $\frac{1}{4}$	33.33% or $\frac{1}{3}$	50% or $\frac{1}{2}$

Profit and Loss: Selling Price এবং Cost Price এর difference positive হলে profit হয়। এখানে cost price থেকে selling price এর percent deviation হচ্ছে percentage of profit.

Selling Price এবং Cost Price এর difference যদি negative হয় তাহলে seller এর loss হয়। Cost price থেকে selling price এর percent deviation হবে percentage of loss.

N.B. Profit / loss সবসময় cost price এর উপর count করা হয়।

Example: A retailer buys a radio from the wholesaler for \$75. What will be the percent of profit if he sells the radio for \$100? What will be the percent of loss if he sells for \$ 60?

Solution: $\%\ \text{profit} = \frac{100-75}{75} \times 100\%$

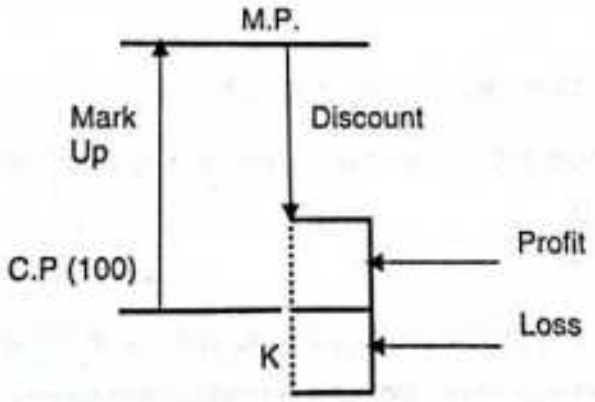
$= 33.33\%$ profit

$\%\ \text{loss} = \frac{75-60}{75} \times 100\%$

$= 20\%$ loss

Mark-Up, Mark-Down and Discount: কখনো কখনো seller cost price এর উপর some percent profit ধরে একটি price ঠিক করে। এই percentage টিকে mark up percentage এবং price টিকে ধার্য্য মূল্য বা mark up price or tag price বলে।

কখনো কখনো seller, mark up price এর উপর some percent price reduction offer করে। এই reduction কে discount করা বলে। Discount এর পর final price পাওয়া যায়। Cost price কে base ধরে deviation থেকে profit এবং loss নির্ণয় করা যায়।



Example: If the discount is 10%, profit is 8%. What is the percentage of profit / loss if the discount is 20%?

Solution: Cost price \$100 হলে mark up price / tag price এর উপর 10% discount করার পর selling price \$108.

$\therefore$ Mark-up price $= \frac{100 \times 108}{90} = \$120$

এখন \$ 120 এর উপর 20% discount করলে,

$$\text{Selling price} = \frac{80 \times 120}{100} = \$96$$

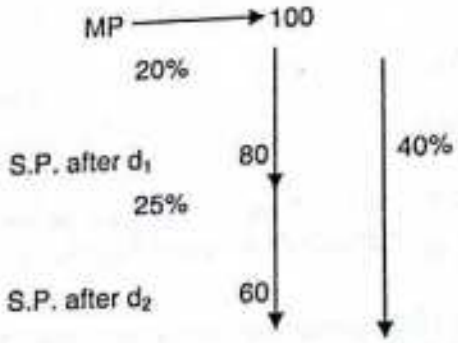
$\therefore$ Cost price \$100 হলে selling price \$96

$\therefore$ % Loss = 4%

Successive Discount: Mark up price এর উপর একবার discount করার পর discounted price এর উপরে আবার discount করা হলে তাকে successive discount করা বলে। এই দুটি discount মিলে একটি different discount এর সমতুল্য বা equivalent.

Example: Successive discount of 20% and 25% are equivalent to a single discount of what percent?

Solution:



$\therefore$ Equivalent single discount of 40%

If the price is discounted by a percent, then the price becomes (100 – a) percent of the original price.

When b is the rate of successive discount and a, b are two consecutive discount rates, then

Equivalent single discount $= -a - b + \frac{ab}{100}$

N.B: Here, the signs before both a & b are negative because both of them are discount rates. For individual price increase from the tag price, use positive sign (+) before that change; and for any discount, use negative sign (-) before that change in the following formula of successive change.

Equivalent one change for two Successive Changes $= a + b + \frac{ab}{100}$

Simple and Compound Interest

Basic terminology:

(a) Invested Amount — P = Principle (আসল)
(b) Gain on Investment — I = Interest (সুদ)
(c) % gain on Investment — R = Rate of Interest per annum (সুদের হার)
(d) Future value of P — A = Accumulated Amount or Total (সুদাসল)
(e) Duration of investment — t = Time in years (সময়)

Simple Interest: Simple interest বা সরল সুদে শুধুমাত্র Principle এর উপর Interest count করা হয় অর্থাৎ succeeding period-এ preceding period এর interest payment এর উপর interest count করা হয় না।

Unitary system apply করে এই problem গুলো solve করা যায়। তবে P, R, T, I এবং A এর relation থেকেও problem solve করা যায় ঃ

$$I = p \times r \times t \quad \text{এবং}$$
$$A = p \times r \times t + p$$
$$= p(r \times t + 1)$$

Example: What will be the simple interest and accumulated amount after 2 years if Tk. 1000 is invested at 10% p.a.?

Solution: $I = p \times r \times t$

$$I = 1000 \times \frac{10}{100} \times 2$$
$$= 200 \text{ tk.}$$

$$A = p \times r \times t + p$$
$$= (200 + 1000) \text{ tk.}$$
$$= 1200 \text{ tk.}$$

Compound Interest: Compound interest বা চক্রবৃদ্ধি সুদে, interest payment এর উপর interest count করা হয়।

এক্ষেত্রে,

$$A = P(1 + r)^t$$
$$I = P(1 + r)^t - P$$
$$= P\{(1 + r)^t - 1\}$$

Example: What will be the compound interest and accumulated amount after 2 years on tk. 1000 if the rate of interest is 10% p.a.?

$$A = 1000\left(1 + \frac{10}{100}\right)^2 \text{ tk}$$
$$= 1000 \times 1.21 \text{ tk}$$
$$= 1210 \text{ tk}$$
$$I = (1210 - 1000) \text{ tk}$$
$$= 210 \text{ tk}$$

N.B. (i) Simple বা compound interest-এ 1st year শেষে total amount এ কোন difference থাকবে না।
(ii) কোন amount যদি n years এ 2 times হয়, অর্থাৎ x যদি n years এ 2x হয়, তবে (n + n) অর্থাৎ 2n year এ 4x হবে।

Review Exercise - 2

1. Q is what percent of 20% of 15?

(A) $\frac{Q}{300}\%$ (B) $\frac{3}{100Q}\%$ (C) $\frac{3Q}{100}\%$ (D) $\frac{100Q}{3}\%$ (E) $\frac{100}{3Q}\%$

2. $\frac{7}{8}$% of 80 is 20% of what number?

(A) $\frac{7}{8}$ (B) $\frac{7}{100}$ (C) $\frac{8}{100}$ (D) 7 (E) 8

3. How much money would a man have to invest at the rate of 5% per year, to have $1470 at the end of the year?

(A) $70 (B) $700 (C) $1400 (D) $1462 (E) $1540

4. A class of 80 has 25% girls. If 10% of the boys and 20% of the girls attended a picnic, what percent of the total students of the class attended the picnic?

(A) 10% (B) 12% (C) $12\frac{1}{2}\%$ (D) 20% (E) 30%

5. A merchant marks a certain lamp up 20% above cost. Then he gives a customer a 10% discount. If the final selling price of the lamp was $81, what was the original cost price?

(A) $72.0 (B) $74.25 (C) $75.0 (D) $75.75 (E) $78.0

6. In how many years taka 1500 will become taka 1860 if the simple interest rate is 6% p.a.?

(A) 3 (B) 4 (C) 5 (D) 6 (E) None of these

7. If 54% of town's population received the first two polio "shots", but 10% of these people did not received the third, what percent of the town took all three shots?

(A) 44% (B) 48.6% (C) 49.6% (D) 59.9% (E) 64%

8. 80% of the apartments in Mymensingh city have smoke alarms installed. Of these, 20% have smoke alarms those are not working. What percent of the apartments in the city has working smoke alarms?

(A) 60% (B) 64% (C) $66\frac{2}{3}\%$ (D) 70% (E) 72%

9. In reading a Thermometer, Auntu mistakenly observed a temperature of 72° instead of 77°. What was her percentage of error (to the nearest hundredth of a percent)?

(A) 5.0% (B) 6.50% (C) 6.74% (D) 6.82% (E) 6.95%

10. A store sells a watch for a profit of 25% of the wholesale cost. What percent of the selling price of the watch is the stores profit?

(A) 12.5% (B) 15% (C) 20% (D) 25% (E) 50%

11. A stock decreases in value by 20%. By what percent must the stock price increase to reach its former value?

(A) 15% (B) 20% (C) 25% (D) 30% (E) 40%

12. A man bought 10 crates of oranges for a total cost of $80. If he lost 2 of the crates, at what price would he have to sell each of the remaining crates in order to earn a total profit of 25% of the cost?

(A) $1000 (B) $12.50 (C) $15.00 (D) $100.00 (E) $120.00

13. A baseball team won 45 percent of the first 80 games it played. How many of the remaining 82 games the team must win in order to win exactly 50 percent of all the games it plays?

(A) 36 (B) 45 (C) 50 (D) 80 (E) 100

14. In a certain school 50% of all the male students and 60% of all the female students play a varsity sport. If 40% of the students at the school are male, what percent of the students do not play that varsity sport?

(A) 44% (B) 50% (C) 55% (D) 56% (E) 60%

15. A retailer buys a radio from the wholesaler for $75.00. He then marks up the price by $\frac{1}{3}$ and sells at a discount of 20%. What was his profit on the radio?

(A) $5.00 (B) $6.67 (C) $7.50 (D) $10.00 (E) $13.33

16. A store usually sells a certain item at a 40% profit. One week the store has a sale, during which the item is sold for 10% less than the usual price. During the sale, what is the percent profit the store makes on each of these items?

(A) 4% (B) 14% (C) 26% (D) 30% (E) 36%

17. Successive discount of 20% and 12.5% are equivalent to a single discount of:

(A) 16.25% (B) 26% (C) 28% (D) 30% (E) 32.5%

18. A sum of money at compound interest amounts to thrice itself in 3 years. In how many years will it be 9 times itself?

(A) 18 (B) 12 (C) 9 (D) 6 (E) 10

19. For an article, if the discount is 30%, the profit is 40%. What is the profit if the discount is 40%?

(A) 10% (B) 20% (C) 25% (D) 30% (E) None of these

20. A 10% rebate enables one to get a meter of cloth extra for $45. What was the original price per meter of cloth?

(A) 4 (B) 4.25 (C) 4.5 (D) 5 (E) 5.25

21. Mr. Iraj usually makes a 45% profit on every radio he sells. During a sale, he reduces his margin of profit to 40% while his sales increase by 10%. What is the ratio of his new total profit to the original profit?

(A) 1:1 (B) 45:44 (C) 8:9 (D) 11:10 (E) 44:45

22. A retailer sold an old cell phone at 20% loss. If the selling price were Tk. 75 more, he could have gained a profit of 10%. What was the cost price of the cell phone?

(A) Tk. 180 (B) Tk. 200 (C) Tk. 220 (D) Tk. 250 (E) Tk. 300

23. A shop sold a pair of shoes for Tk. 1800 and a pair of sandals for Tk. 1350. It made a profit of 20% on shoes and took a loss of 10% on sandals. What is the overall profit or loss of the shop?

(A) 4% (B) 5% (C) 6.67% (D) 10% (E) None of these

24. A merchant marks his goods up in such a way that the profit made on selling 30 articles is equal to the cost price of 20 articles. What is the % profit made by the merchant?

(A) 66.67% (B) 50% (C) 200% (D) 100% (E) 33.33%

25. Riyad had Tk. 2000 to invest. He invested part of it at 5% per year, and the remainder at 4% per year. After one year, his investment grew to Tk. 2095. How much of the original investment was at the 5% rate?

(A) Tk. 500 (B) Tk. 750 (C) Tk. 1,000 (D) Tk. 1,250 (E) Tk. 1,500

Answer keys

1. D	6. B	11. C	16. C	21. E
2. A	7. B	12. B	17. D	22. D
3. C	8. B	13. A	18. D	23. B
4. C	9. B	14. A	19. B	24. A
5. C	10. C	15. A	20. D	25. E

❖ CHAPTER OUTLINE

- ✓ Average / Mean, Median, Mode
- ✓ Face Value of Currencies

Average / Arithmetic Mean: কিছু number এর average বের করতে হলে তাদের sum (মোট) কে তাদের সংখ্যা দিয়ে ভাগ করতে হয়। Average এর basic formula :

$$\text{Average} = \frac{\text{Sum of the numbers}}{\text{Number of numbers}}$$

এখান থেকে পাওয়া যায়,

Sum of the numbers = Average x Number of numbers

Example: What is the average of one tenth, one hundredth and one thousandth?

Solution: $\frac{.1+.01+.001}{3} = \frac{.111}{3} = 0.037$

Median: Median হচ্ছে ascending অথবা decending order-এ সাজানো কতগুলো number এর middle number. মানের উর্ধ্বক্রম / মানের নিম্নক্রম-এ সাজানো n সংখ্যক arranged number এর median $\frac{n+1}{2}$ th number, অর্থাৎ 7টি ক্রমানুসারে সাজানো number এর 4^{th} number টি median এবং 10 টি মানের ক্রমানুসারে সাজানো number এর 5.5^{th} number টি অর্থাৎ $\frac{5\text{th number} + 6\text{th number}}{2}$ হচ্ছে sequence এর median.

Example: Find the median of –3, 18, -4, $\frac{1}{2}$, 11, 18

Solution: The numbers in order: -4, -3, $\frac{1}{2}$, 11, 18

$$\text{Median} = \frac{1}{2}$$

Mode: কোন sequence এ যে number টি সবচেয়ে frequent অর্থাৎ সবচেয়ে বেশী বার আছে তাকে sequence এর mode বলে।

Example: Find the mode of 1, 3, 2, 9, 8, 7, 3, 1, 3, 3, 9

এখানে 3 বার 3 আছে এবং অন্য কোন number 2 টির বেশী নেই।

অতএব mode হচ্ছে 3।

Weighted Average: x_1, x_2 এবং x_3 এই সংখ্যা তিনটির average হবে $\frac{x_1 + x_2 + x_3}{3}$ কিন্তু x_1 যদি f_1 সংখ্যক, x_2 যদি f_2 সংখ্যক এবং x_3 যদি f_3 সংখ্যক হয় তবে এদের average হবে $\frac{x_1 f_1 + x_2 f_2 + x_3 f_3}{f_1 + f_2 + f_3}$

এখানে $f_1 + f_2 + f_3 = N$ = Number of the numbers.
এখানে $f_2 > f_1 > f_3$ হলে mode হবে x_2 কারণ x_2 আছে f_2 সংখ্যক। Median হবে x_1, x_2 ও x_3 কে ধারাবাহিক সাজানোর পর $\frac{f_1 + f_2 + f_3 + 1}{2}$ th value অর্থাৎ $\frac{n+1}{2}$ th value

Example:

Age xi	No. of boys fi
10	4
11	5
12	5
13	6
14	2

Find the average for the ages of the boys according to the table shown above.

Solution: Average $= \frac{10\times4+11\times5+12\times5+13\times6+14\times2}{4+5+5+6+2} = \frac{261}{22} = 11.86$

Example:

(I) The average of 7 numbers is 6. If the average of any 4 is 4, what is the average of rest of the numbers?

Solution:

7 টির sum = average × n
= 7 × 6 = 42
4 টির sum = 4 x 4 = 16
3 টির sum = 42 – 16 = 26
3 টির average = $\frac{26}{3} = 8.667$

(II) If Galib scored 22 runs on average in first 10 matches in this year. What should he score in the 11th match to make his average 25?

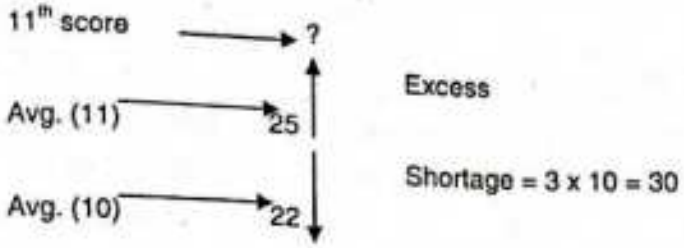
Solution:

∴ Required Score = 25 x 11 – 22 x 10
= 275 – 220
= 55

N. B. Average থেকে number গুলোর difference এর sum সব সময় 0.

Average এর উপরে যতটুকু excess থাকে, average এর নীচে ততটুকুই shortage থাকবে।

অর্থাৎ, excess = shortage



এখানে excess 30 হতে হবে, ∴ 11th score = 25 + 30 = 55

Face Value of Currencies:

Value = Rate x Number of Items

Example: Shahriar has $3.00 in nickels and dimes in his pocket. If he has twice as many nickels as he has dimes, how many coins does he have altogether?

Here, Rate x Number of coins = Value

	cents/coin	Coins	Cents
Nickels	5	2c	10c
Dimes	10	c	10c

Now we recall the additional bit of information that the total value of the nickels and dimes is $3.00, or 300 cents.

Thus, 5×2c + 10c = 300; 20c = 300; so, c = 15, the number of dimes.

Shahriar has twice as many nickels, so, 2c = 30 nickels.

The total number of coins is c + 2c = 15 + 30 = 45.

Remember:

1 dollar = 100 cents
1 nickel = 5 cents
1 dime = 10 cents
1 quarter = 25 cents
Half dollar = 50 cents

Review Exercise - 3

1. If the average of a and –5 is 10, then a =?
(A) 25 (B) 15 (C) 5 (D) –5 (E) –15

2. The average of 5 consecutive integers is 18. What is the average of the first 3 of these integers?
(A) 16 (B) 17 (C) 18 (D) 19 (E) 20

3. A certain store stocks five different brands of ice-cream, and sells a liter of each for $ 2.75, $ 3.25, $ 2.50, $ 3.25 and $ 3.00 respectively. What is the positive difference between the mode price and the median price?
(A) $0.05 (B) $0.25 (C) $0.30 (D) $0.50 (E) $0.75

4. A violinist practices 1 hour a day from Monday through Friday. How many hours must she practice on Saturday in order to average 2 hours a day for the 6-day period?
(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

5. If the average of x + 2, x + 4 and x + 6 is 0 then x =?
(A) –4 (B) –3 (C) –2 (D) –1 (E) 0

6. In a class there are 12 boys and 18 girls. If the class average for an algebra exam is 90 and the boys' average score is 87, what is the girls' average score?
(A) 88.5 (B) 91 (C) 92 (D) 93 (E) 94.5

7. 15 movie theatres average 600 customers per theater per day. If 6 of the theatres close down but the total number of attendance remains the same, what is the daily attendance per theater among the remaining theaters?
(A) 600 (B) 750 (C) 1000 (D) 1200 (E) 1500

8. The average of M numbers is A and the average of N numbers is B. What is the average of all the numbers?
(A) A+B (B) $\frac{A+B}{2}$ (C) $\frac{AM+BN}{2}$ (D) $\frac{AM+BN}{M+N}$ (E) $\frac{AM+BN}{A+B}$

9. Auntu bought 50 shares at $60, and 2 months later she purchased 25 shares at $56. At what price should she purchase 25 additional shares in order to have an average price of $58 per share?
(A) $53 (B) $54 (C) $55 (D) $56 (E) $57

10. The readings in a freezer are 5^0, -7^0 and 8^0. What must the next reading be so that the average will be 1^0?
(A) -5^0 (B) -2^0 (C) -1^0 (D) 1^0 (E) 10^0

11. The average age of a committee of 8 members is 40 years. A member aged 55 years retired and another member aged 39 years took his place. The average age of the present committee is:
(A) 29 years (B) 38 years (C) 21 years (D) 25 years (E) None of these

12. The average age of 5 children is 8 years. If the age of the father is included, it is increased by 7 years. Find the age of the father.
(A) 40 years (B) 45 years (C) 50 years (D) 55 years (E) None of these

13. The average of 11 results is 40 and that of the first five is 25 and that of the last five is 30. What is the 6^{th} result?
(A) 60 (B) 65 (C) 70 (D) 75 (E) None of these

14. The average age of a husband and wife, who were married 7 years ago, was 25 years. At present, the average age of the family including the husband, the wife and a child who was born during the interval is 22 years. How old is the child now?
(A) 2 years (B) 3 years (C) 4 years (D) 5 years (E) None of these

15. The average age of 24 students in a class is 14. If the teacher's age is included the average increases by 1. What is the teacher's age in years?
(A) 39 (B) 40 (C) 45 (D) 49 (E) 51

16. The average of first five prime numbers is
(A) 3.6 (B) 5.4 (C) 5.6 (D) 7.8 (E) None of these

17. Jill buys 16 cookies, Bella buys 12 cookies, and Catharine buys 'x' cookies. The average number of cookies the three of them bought is between 19 and 23, inclusive. What is the minimum number of cookies Catharine could have bought?
(A) 35 (B) 31 (C) 30 (D) 29 (E) 28

18. The average height of a group of 25 students goes up by 2 cm when a student of height 165 cm replaces a student from the group. The height of the boy who went out of the group was:
(A) 115 cm (B) 114 cm (C) 112 cm (D) 110 cm (E) None of these

Test Score	Number of students
90	2
85	1
80	1
60	3

19. The test scores of 7 students are shown above. Let 'M' and 'm' be the median and mean scores respectively. What is the value of M – m?
(A) 3 (B) 4 (C) 5 (D) 6 (E) 7

20. The average temperature of a town in the first four days of a month was 58°. The average for the second, third, fourth and fifth days was 66°. If the temperatures on the first and the fifth days were in the ratio 7:11, find the temperature on these days.
(A) 56°, 88° (B) 60°, 70° (C) 80°, 65° (D) 35°, 55° (E) None of these

21. In a certain class, a student's final grade is a function of the grades she receives on a midterm exam, a final exam, and a term paper. The term paper counts twice as much as the final exam; the final exam counts twice as much as the midterm exam. If a student receives a midterm score of 75, a final exam score of 80, and a grade of 90 on the term paper, what is the student's final grade?
(A) 80 (B) 85 (C) 90 (D) 95 (E) 100

22. Nine friends went to a hotel for taking their meals. Eight of them spent Tk. 12 each for their meals and the ninth spent Tk. 8 more than the average expenditure of all the nine. Total money spent by them was:
(A) Tk. 182 (B) Tk. 120 (C) Tk. 122 (D) Tk. 117 (E) None of these

23. Riyad has 112 taka. He has twice as many 5 taka notes as he has 10 taka notes. Other than these, he has only 2 taka notes. Find the minimum number of 2 taka notes he must have.

(A) 1 (B) 6 (C) 7 (D) 16 (E) None of these

24. A man spent exactly Tk. 2.50 on 3 paisa, 6 paisa, and 10 paisa stamps. If he bought ten 3 paisa stamps and twice as many 6 paisa stamps as 10 paisa, how many 10 paisa stamps did he buy?

(A) 5 (B) 10 (C) 12 (D) 15 (E) 20

25. Tanjila exchanged a dollar bill for change and received 7 coins, none of which were half-dollars. How many of these coins were dimes?

(A) 0 (B) 1 (C) 4 (D) 5 (E) Cannot be determined

Answer keys

1. A	6. C	11. B	16. C	21. B
2. B	7. C	12. C	17. D	22. D
3. B	8. D	13. E	18. A	23. B
4. D	9. D	14. A	19. C	24. B
5. A	10. B	15. A	20. A	25. E

❖ **CHAPTER OUTILINE**

- ✓ **Speed, Distance, Time**
- ✓ **Rowing Boat, Current & Speed**
- ✓ **Train & Speed**
- ✓ **Comparing Travelled Distances**

Speed, Distance, Time: কোন moving object, unit time-এ যতটুকু distance অতিক্রম করে তাকে তার speed বলে। অতএব speed এর basic formula :

$$\text{Speed} = \frac{Distance}{Time}$$

এই equation এর S, D এবং T এর যে কোন দুটির মান জানা থাকলে সহজেই অপরটি নির্ণয় করা যায়। যেমন-

$$\text{Time} = \frac{Distance}{Speed}$$

Example: What is the distance covered by a jet plane that travels at the rate of xy miles per hour for 2 hours.

Solution: Distance = Time x Speed
= 2 hr × *xy* mph
= 2xy miles

Average Speed: Average নির্ণয় করার সাধারণ পদ্ধতিতে average speed নির্ণয় করা যায় না।

$$\text{Average speed} = \frac{\text{Total Distance}}{\text{Total Time}}$$

কোন বস্তু যদি D_1 distance T_1 সময়ে এবং D_2 distance T_2 সময়ে অতিক্রম করে তাহলে,

$$\text{Average Speed} = \frac{D_1 + D_2}{T_1 + T_2}$$

Example: If a car travels at S_1 miles per hour for T_1 hours and S_2 miles per hour for T_2 hours, find its average speed.

Solution:

$D_1 = S_1 \times T_1$

$D_2 = S_2 \times T_2$

$\therefore$ Averages speed = $\frac{S_1T_1 + S_2T_2}{T_1 + T_2}$ OR $\frac{D_1 + D_2}{T_1 + T_2}$

N. B. Average speed এর problem-এ $D_1 = D_2$ হলে, Average Speed = $\frac{2S_1S_2}{S_1 + S_2}$

Example: If a car traveled from City X to City Y at a rate of 40 mph and returned at a rate of 60 mph, what was its average speed?

Solution: Average speed = $\frac{2 \times 40 \times 60}{40 + 60}$ = 48 mph

N. B. 48 mph, 40 এবং 60 এর average অর্থাৎ 50 এর ছোট। এই information $d_1 = d_2$ হলে always applicable.

✓ This formula is applicable only when $D_1 = D_2$. Direction of journey is not important in this case.

Rowing Boat, Current & Speed

With the problems - a boat rowing in a river, following variables may be used:

B = speed of the boat in still water (boat's own speed)
C = the speed of the current in the river
T_d = time spent going downstream (স্রোতের অনুকূলে)
T_u = time spent going upstream (স্রোতের প্রতিকূলে)
D_d = distance gone downstream
D_u = distance gone upstream

1) Upstream বা স্রোতের প্রতিকূলে boat এর total speed,
S_u = Speed of the boat – Speed of the current = B - C

2) Downstream বা স্রোতের অনুকূলে total speed,

S_d = Speed of the boat + Speed of the current = B + C

Upstream–এ Distance, $D_u = (B - C) \times T_u = S_u \times T_u$

Downstream –এ Distance, $D_d = (B + C) \times T_d = S_d \times T_d$

Train & Speed

This is just another version of speed, distance, time word problems and the same formula **(Distance = Speed x Time)** will be used. Some important points to be kept in mind while solving this particular type of problems.

The principle about objects moving in opposite directions toward each other is the *relative speed* which comes into count is the sum of the speeds of those two objects. Hence, we add two speeds when they move into opposite direction.

Again, when two objects move in the same direction, the *relative speed* is the difference between the speeds of those objects. Thus we subtract the slower object's speed from the faster object's speed.

Relative speed: Relative speed বা আপেক্ষিক বেগ এর সাহায্যে দুটি moving object এর একটির সাপেক্ষে অপরটির speed বা দুটির পারস্পরিক অবস্থান তুলনা করা হয়। দুটি moving object A ও B এর speed S_1 ও S_2 হলে,

(1) যদি same direction-এ A ও B একই সময়ে একই point থেকে যথাক্রমে S_1 ও S_2 speed-এ start করে এবং $S_1 > S_2$ তাহলে unit time পরে তাদের distance হবে $S_1 - S_2$.

(2) যদি same direction-এ চলাকালীন সময়ে B সামনে থাকে এবং $S_1 > S_2$ হলে তাদের দূরত্ব unit time-এ $S_1 - S_2$ পরিমান কমবে।

(3) Opposite direction এ same point থেকে start করলে তাদের distance unit time পরে $S_1 + S_2$ পরিমান বাড়বে।

(4) Opposite direction এ দুটি point থেকে পরস্পরের দিকে চলতে শুরু করলে তাদের distance unit time -এ $S_1 + S_2$ পরিমান কমবে।

Determining the length / distance while crossing a point or a place: একটি moving object কে তার গতিপথে কোন particular point অতিক্রম করতে হলে নিজের length অতিক্রম করতে হবে এবং কোন place (having significant length) কে অতিক্রম করতে হলে নিজের length এবং place টির length এর sum এর সমপরিমান length cross করতে হবে।

Review Exercise – 4

1. Riyad travels 'a' miles in 'b' hours, and then 'c' miles in 'd' hours. How many hours will be needed to travel 1,000 miles if he maintains this average speed?

(A) $\frac{1000}{a+c}$ (B) $\frac{1000}{b+d}$ (C) $\frac{1000}{b+c+d}$ (D) $\frac{1000(b+d)}{a+c}$ (E) $\frac{a+c}{1000(b+d)}$

2. A man walked into the woods at the rate of 4 miles per hour and returned over the same road at the rate of 3 miles per hour. If he completed the entire trip in $3\frac{1}{2}$ hours, how far, in miles, into the woods did he walk?

(A) 3 (B) 4 (C) 5 (D) 6 (E) None of these

3. A man travels for 2 hours at 30 miles an hour and then covers 60 miles in the next 3 hours. What is the average rate for the entire trip?

(A) 18 (B) 24 (C) 36 (D) 45 (E) 90

4. A motorboat travels twice as fast when empty as when it is full. It travels 20 miles north with a cargo, spends half an hour for unloading, and returns to its original port empty, taking 8 hours to complete the entire trip. What is the speed of the motorboat when it is empty?

(A) 3.75 mph (B) 4 mph (C) 7.5 mph (D) 8 mph (E) None of these

5. A train travelling 100 miles at m miles per hour arrived at its destination 1 hour late. How many miles an hour should it have travelled to arrive on time?

(A) $\frac{100}{m}$ (B) $\frac{100-m}{m}$ (C) $\frac{100m}{100-m}$ (D) $\frac{100m}{100+m}$ (E) $\frac{100-m}{100m}$

6. A boat sails m miles upstream at the rate of r miles per hour. If the rate of the stream is s miles per hour, how long will it take the boat to return to its starting point?

(A) $\frac{m}{r}$ (B) $\frac{m}{r+2S}$ (C) mr – 8 (D) $\frac{m}{s}+r$ (E) $\frac{m}{r+s}$

7. A motorist travelled 60 miles at the rate of 20 miles per hour and returned over the same route at 40 miles per hour. What was the average rate for the entire trip?

(A) $26\frac{2}{3}$ (B) 30 (C) 34 (D) $37\frac{1}{2}$ (E) 60

8. Two automobiles started together from the same point in the same direction at 40 miles per hour and 50 miles per hour, respectively. How many hours after will they be 18 miles apart?

(A) $\frac{4}{5}$ (B) $\frac{5}{4}$ (C) $\frac{5}{9}$ (D) $\frac{9}{5}$ (E) $\frac{8}{9}$

9. Nazia rides her bicycle at an average rate of m kilometers per minute. Mashrifa walks half the distance in 3 times the length of that time. What is Mashrifa's rate, in kilometers per minute?

(A) $\frac{m}{90}$ (B) $\frac{m}{40}$ (C) $\frac{m}{10}$ (D) $\frac{m}{6}$ (E) $\frac{2m}{3}$

10. A motorboat, whose speed is 15 km/hr in still water goes 30 km downstream and comes back in a total of 4 hours 30 minutes. The speed of the stream (in km/hr) is:

(A) 4 (B) 5 (C) 6 (D) 10 (E) None

11. A man rowed 3 miles upstream in 90 minutes. If the river flowed with a current of 2 miles per hour, how long did the man's return trip take?

(A) 20 min (B) 30 min (C) 45 min (D) 60 min (E) 80 min

12. A bus went 300 miles from Dhaka to Khulna at an average rate of 80 mph. At what speed did it travel on the way back if its average speed for the whole trip was 100 mph?

(A) 120 mph (B) 125 mph (C) $133\frac{1}{3}$ mph (D) $137\frac{1}{2}$ mph (E) 150 mph

13. A and B can run 200m in 22 and 25 seconds respectively. How far is B from the finishing line when A reaches it?

(A) 8 m (B) 16 m (C) 20 m (D) 24 m (E) 32 m

14. One third of a certain journey was covered at the speed of 20 km per hour, one fourth at the rate of 30 km per hour and the rest at the rate of 50 km per hour. Find the average per hour of the whole journey?

(A) 28 km/hr (B) 30 km/hr (C) $33\frac{1}{3}$ km/hr (D) 40 km/hr (E) None of these

15. Town A and B are 420 miles apart. If a train leaves for B at 60 mph, how many hours will it take to meet another train going from B to A at 45 mph?

(A) $3\frac{3}{4}$ (B) 4 (C) $4\frac{1}{2}$ (D) 5 (E) $5\frac{1}{2}$

16. The speed of a motor boat itself is 20 km/h and the rate of flow of the river is 4 km/h. Moving with the stream, the boat went 120 km. What distance will the boat cover during the same time going against the stream?

(A) 60 km (B) 80 km (C) 100 km (D) 120 km (E) 180 km

17. A man can travel 120 miles in either of two ways. He can travel at a constant rate of 40 miles per hour, or he can travel half way at 50 miles per hour, then slow down to 30 miles per hour for the second half. Which way is faster, and by how much?

(A) The constant rate is faster by 10 minutes or more
(B) The constant rate is faster by less than 10 minutes
(C) The two ways take exactly the same time
(D) The constant rate is slower by less than 10 minutes
(E) The constant rate is slower by 10 minutes or more

18. A train 55 meters long passes a railway station 220 meters long in 10 seconds. How many seconds will it take to pass a telegraph pole?

(A) 2 (B) 2.2 (C) 2.5 (D) 3 (E) 5

19. A train traveling at 72 km/h crosses a platform in 30 seconds and a man standing on the platform in 18 seconds. What is the length of the platform in meters?

(A) 240 m (B) 360 m (C) 420 m (D) 600 m (E) None of these

20. Auntu rides her bicycle 10 miles at an average rate of 12 miles per hour and x miles at an average rate of 10 miles per hour. If her average rate for the entire trip was 11 miles per hour, find the value of x.

(A) 8 (B) $10\frac{2}{3}$ (C) 12 (D) $8\frac{1}{3}$ (E) $15\frac{1}{2}$

21. In one hour, a boat goes 11 km /hr along the stream and 5 km /hr against the stream. The speed of the boat in still water (in km /hr) is:

(A) 3 km /hr (B) 5 km /hr (C) 8 km /hr (D) 9 km /hr (E) None of these

22. Two trains are running on parallel lines in the same direction at a speed of 50 km/hr and 30 km/hr respectively. The faster train crosses a man sitting in the slower train in 18 seconds. What is the length of the faster train?

(A) 170 m (B) 100 m (C) 98 m (D) 85 m (E) 64 m

23. Amit and Johny agreed to race across a 50-foot pool and back again. They started together, but Amit finished 10 feet ahead of Johny. If their rates were constant, and Amit finished the race in 27 seconds, how long did Johny take to finish it?

(A) 28 seconds (B) 30 seconds (C) 33 seconds (D) 35 seconds (E) 37 seconds

24. One hour after Asif started walking from Dhaka to Narayanganj, a distance of 45 miles; Rocky started walking along the same road from Narayanganj to Dhaka. If Asif's speed was 3 miles per hour and Rocky's was 4 miles per hour, how many miles had Asif walked when they met?

(A) 24 (B) 23 (C) 22 (D) 21 (E) 18

25. A car traveled 75% of the way from town A to town B by traveling at an average speed of 'V' mph. The car travels at an average speed of 'S' mph for the remaining part of the trip. Which of the following expressions represents the average speed for the entire trip?

(A) $0.75\,V + 0.25\,S$ (B) $\frac{4VS}{3S+V}$ (C) $\frac{V}{3S}$ (D) $\frac{4V}{\left(\frac{V+S}{3}\right)}$ (E) None of these

Answer keys

1. D	6. B	11. B	16. B	21. C
2. D	7. A	12. C	17. A	22. B
3. B	8. D	13. D	18. A	23. B
4. D	9. D	14. B	19. A	24. D
5. C	10. B	15. B	20. D	25. B

Concentration: কোন একটি mixture-এ কোন একটি substance এর পরিমান এবং mixture এর মোট পরিমানের ratio-ই হচ্ছে Concentration. It is generally expressed as percentage.

$$\text{Concentration} = \frac{\text{the amount of substance}}{\text{the amount of mixture}}$$

কোন একটি solution এর concentration, $\text{Concentration} = \frac{\text{amount of Solid}}{\text{amount of Solution}}$

Example: A 10-gallon solution of disinfectant contains 1 gallon of disinfectant. What is the concentration of the solution?

Solution: $\frac{1}{10} = \frac{1}{10} \times 100\% = 10\%$

দুটি different solution একসাথে add করা হলে বা একটি solution এর সাথে solid বা liquid add করা হলে mixture এর concentration হবে:

$$\textbf{Concentration (C)} = \frac{C_1Q_1 + C_2Q_2}{Q_1 + Q_2}\%$$

Here, 'C' refers for concentration and 'Q' refers for Quantity.

C_1 concentration এর Q_1 gm. solution$_1$ এর সাথে C_2 concentration এর Q_2 gm. solution$_2$ add করা হলে mixture এর percentage of concentration হবে উপরের formula-র অনুরূপ।
যদি solution$_2$ এর বদলে solid item add করা হয় তাহলে C_2 হবে 100 এবং liquid (water) add করা হলে C_2 হবে 0, উপরের C, C_1, C_2, Q_1 ও Q_2 এই 5 টির 4 টি জানা থাকলে সহজেই অপরটি বের করা যাবে।

N. B. Concentration এই formula টিতে weight average এর concept নেয়া হয়েছে। এই একটি formula দিয়ে solution related সব ধরনের Problem solve করা যায়।

কিছু কিছু mixture problem-এ average এর [excess = shortage] formula use করে solve করা যায়।

Example: How many pounds of pure salt must be added to 30 pounds of a 2% solution of salt in water to increase it to a 10% solution?

Solution: $C = \frac{C_1Q_1 + C_2Q_2}{Q_1 + Q_2}$

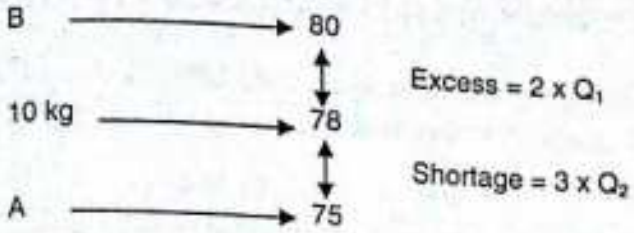
$\therefore \quad 10 = \frac{100Q_1 + 2x30}{Q_1 + 30}\%$

বা, $10Q_1 + 300 = 100Q_1 + 60$

বা, $90Q_1 = 240$ বা, $Q_1 = 2\frac{2}{3}$

Example: Coffer A normally costs 75 paisa per pound. It is mixed with coffee B, which normally costs 80 paisa per pound to form a mixture, which costs 78 paisa per pound. How many pounds of coffee A were used if there are total 10 pounds of the mix?

Solution 1: এখানে average 78 paisa.



এখানে 10 কে এমনভাবে Q_1 ও Q_2 তে ভাগ করতে হবে যেন $2Q_1 = 3Q_2$ হয়।

$\therefore Q_2 = 4$

Solution 2: মনে করি quantity of coffee A = x pounds

$\therefore 75x + 80(10 - x) = 78 \times 10$

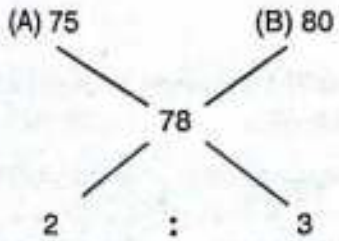
or, $75x - 80x + 800 = 780$

or, $x = \frac{20}{5} = 4$ pounds.

Solution 3:

Here, we take the differences of the two prices from the price of the mixture; that is, for coffee A: (78 – 75) = 3 and for coffee B: (80 – 78) = 2 and then these differences will be *inversely* their ratio in the mixture.

That means, in the mixture, Coffee A: Coffee B = 2: 3



So the ratio of the elements in the mixture is Coffee A: Coffee B = 2: 3

[অর্থাৎ mixture এর মোট পরিমান (2+3) = 5 pounds হলে Coffee A আছে 2 pounds.]

So quantity of coffee A = $\frac{2}{5} \times 10 = 4$ pounds.

Review Exercise – 5

1. Nazia has two quarts of a 30% acid solution and four pints of a 20% acid solution. If she mixes them, what will be the concentration of the resulting solution? [1 quart = 2 pints]
(A) 22% (B) 23% (C) 24% (D) 25% (E) 26%

2. Ten pints of 15% salt solution is mixed with 15 pints of 10% salt solution. What is the concentration of the resulting solution?
(A) 10% (B) 12% (C) 12.5% (D) 13% (E) 15%

3. What is the concentration of the mixture if 5 quarts of 30% acid solution is mixed with 2 pints of 60% acid solution? [1 quart = 2 pints]
(A) 25% (B) 28% (C) 30% (D) 32% (E) 35%

4. A 30% solution of barium chloride is mixed 10 gm of water to form a 20% solution. How many grams of the original solution did we start with?
(A) 10 (B) 15 (C) 20 (D) 25 (E) 30

5. How much water must be added to 3 quarts of a 10% solution of acid to reduce it to a 6% solution?
(A) 1 quart (B) 2 quarts (C) 3 quarts (D) 4 quarts (E) 6 quarts

6. How many quarts of water must be added to 20 quarts of alcohol that is 90% pure in order to obtain a solution that is 40% pure?
(A) 5 (B) 10 (C) 15 (D) 23 (E) 25

7. An alloy of copper and tin is 20% copper. How many pounds of copper must be added to 20 pounds of the alloy in order for the resulting alloy to be 50% copper?
(A) 6 (B) 12 (C) 12.5 (D) 13 (E) 14

8. How many quarts of pure alcohol must be added to 10 quarts of a mixture that is 15% alcohol to make the mixture to be 25% alcohol?
(A) $\frac{3}{4}$ (B) $1\frac{1}{3}$ (C) $1\frac{1}{4}$ (D) $2\frac{1}{2}$ (E) 4

9. How many liters of water should be added to a 30 liter mixture of milk and water containing milk and water in the ratio of 7:3 so that the resultant mixture has 40% water in it?
(A) 7 (B) 10 (C) 5 (D) 12 (E) None of these

10. A solution of 27 gallons of acid contains 9 gallons of pure acid. How much water in gallons, should be added to produce a 25 percent solution of this acid?
(A) $6\frac{3}{4}$ (B) 9 (C) $15\frac{3}{4}$ (D) 18 (E) 27

11. How many pounds of chocolate worth \$1.20 per pound must be mixed with 10 pounds of chocolate worth 90 cents per pound to produce a mixture worth \$1.00 per pound?
(A) 3 (B) 5 (C) 10 (D) 15 (E) 20

12. A chemistry experiment calls for a 30% sulfuric acid solution. The lab supply room has only 50% and 20% sulfuric acid solutions on hand which will be used to prepare the desired solution. How much 50% sulfuric acid solution should be mixed in the mix to obtain 12 liters of a 30% solution?
(A) 2 liters (B) 3 liters (C) 4 liters (D) 6 liters (E) 8 liters

13. A grocer mixes peanuts that cost \$2.50 per pound and walnuts that cost \$3.90 per pound to make 100 pounds of a mixture that costs \$3.20 per pound. How many pounds of \$2.50 per pound nut is put into the mixture?
(A) 30 (B) 40 (C) 45 (D) 50 (E) 60

14. Auntu has 30 ounces of a 20% salt solution. How much salt should she add to make it a 25% salt solution?

(A) 1 (B) 2 (C) 3 (D) 5 (E) 15

15. A man adds two quarts of pure alcohol to a 30% solution of alcohol in water. If the new concentration is 40%, how many quarts of the original solution were there?

(A) 12 (B) 15 (C) 18 (D) 20 (E) 24

16. How many ounces of water must be added to 48 ounces of alcohol to make a solution that is 25% alcohol?

(A) 140 (B) 144 (C) 148 (D) 152 (E) 156

17. A 100% concentrate is to be mixed with a mixture having a concentration of 40% to obtain 60 gallons of a mixture with a concentration of 75%. How much of the 100% concentrate will be needed in the mix?

(A) 20 gallons (B) 25 gallons (C) 30 gallons (D) 35 gallons (E) None

18. How many cubic centimeters of water must be added to 100 cc of 80% solution of Boric Acid to reduce it to a 50% solution?

(A) 40 (B) 45 (C) 50 (D) 55 (E) 60

19. A store owner wants to mix cashews and almonds. Cashews cost 2 dollars per pound and almonds cost 5 dollars per pound. He plans to sell 150 pounds of a mixture. How many pounds of cashews should be mixed if the mixture will cost 3 dollars per pound?

(A) 25 (B) 50 (C) 100 (D) 125 (E) None of these

20. Johny wants to make a 100 ml of 5% alcohol solution mixing a quantity of a 2% alcohol solution with a 7% alcohol solution. What is the ratio of the quantities of each of the two solutions he has to use?

(A) 1: 2 (B) 2: 3 (C) 3: 4 (D) 5: 2 (E) 1: 5

21. Sterling Silver is 92.5% pure silver. How many grams of Sterling Silver must be mixed to a 90% Silver alloy to obtain a 500g of a 91% silver alloy?

(A) 100 (B) 150 (C) 180 (D) 200 (E) 300

22. Kuntal adds X ml of a 25% alcohol solution to a 240 ml of a 10% alcohol solution to obtain another solution. Find X if the final solution has 15% alcohol.

(A) 80 ml (B) 100 ml (C) 120 ml (D) 200 ml (E) 320 ml

23. How much pure acid should be mixed to 30% acid solution to obtain 28 quarts of 40% acid solution?

(A) 2 quart (B) 4 quarts (C) 8 quarts (D) 20 quarts (E) 24 quarts

24. How many kgs of Premium Sugar costing \$42/kg should a grocer mix with 25 kgs of ordinary Sugar costing \$24/kg so that he makes a profit of 25% on selling the mixture at \$40/kg?

(A) 20 kgs (B) 12.5 kgs (C) 16 kgs (D) 25 kgs (E) 10 kgs

25. Riyad made a new bean mixture by adding 4 pounds of lima beans that cost \$6.5 /lb and 32 ounces of pinto beans that cost \$0.5 /oz. What was the price of his new bean mixture?

(A) \$6.0 /lb (B) \$6.4 /lb (C) \$7.0 /lb (D) \$7.5 /lb (E) None of these

Answer keys

1. D	6. E	11. B	16. B	21. D
2. B	7. B	12. C	17. D	22. C
3. E	8. B	13. D	18. E	23. B
4. C	9. C	14. B	19. C	24. A
5. B	10. B	15. A	20. B	25. C

❖ **CHAPTER OUTILINE**

- ✓ Permutation
- ✓ Combination
- ✓ Probability

Permutation and Combination

Permutation, Combination দিয়ে সাধারণত বের করা হয় কত উপায়ে কিছু members of group কে select বা arrange করা যাবে। যেমন: letters of the alphabet, numbers, menu selections, team selections ইত্যাদি।

Fundamental Counting Principle:

The Fundamental Counting Principle is the guiding rule for finding the number of ways to accomplish two tasks.
If there are m ways to do one thing, and n ways to do another, then there are m*n ways of doing both.

For example:

- Let's say that you want to flip a coin and roll a dice. There are 2 ways that you can flip a coin and 6 ways that you can roll a dice. There are then 2x6=12 ways that you can flip a coin *and* roll a dice.
- If you want to draw 2 cards from a standard deck of 52 cards without replacing them, then there are 52 ways to draw the first and 51 ways to draw the second, so there are a total of 52*51 = 2652 ways to draw the two cards.

Permutations:

A permutation is an arrangement of objects (কিছু জিনিসের বিন্যাস), without repetition (পুনরাবৃত্তি ছাড়া), and order being important (ক্রম গুরুত্বপূর্ণ). Another definition of permutation is the number of such arrangements that are possible অর্থাৎ যত সংখ্যক বিন্যাস সম্ভব।

$${}^{n}P_r = P(n, r) = \frac{n!}{(n-r)!}$$

'n' is the total number of objects to choose from.

'r' is the number of objects you are actually taking.

The two key things to notice about permutations are that:

i. Repetition of objects is not allowed.
ii. Order / arrangement is important.

Example: List all permutations of the letters A, B, C, D

ABCD	BACD	CABD	DABC
ABDC	BADC	CADB	DACB
ACBD	BCAD	CBAD	DBAC
ACDB	BCDA	CBDA	DBCA
ADBC	BDAC	CDAB	DCAB
ADCB	BDCA	CDBA	DCBA

Now, if you didn't actually need a listing of all the permutations, you could use the formula for the number of permutations. There are 4 objects and you're taking 4 at a time. ${}^{4}P_4 = \frac{4!}{(4-4)!} = \frac{4!}{0!} = \frac{24}{1} = 24.$

[Note that the value of 0! is 1]

This also gives us another definition of permutations. A permutation when you include all n objects is *n!* (factorial *n*).

Combinations:

A combination is an arrangement of objects (কিছু জিনিসের সমাবেশ), without repetition (পুনরাবৃত্তি ছাড়া), and order not being important (ক্রম গুরুত্বপূর্ণ নয়). Another definition of combination is the number of such arrangements that are possible অর্থাৎ যত সংখ্যক সমাবেশ সম্ভব।

$${}^{n}C_r = C(n, r) = \frac{n!}{(n-r)!r!}$$

'n' is the total number of objects to choose from.

'r' is the number of objects you are actually taking.

The two key things to notice about combinations are that:

i. *Repetition of objects is not allowed.*

ii. *Order / arrangement is NOT important.*

Example : List all combinations of the letters A, B, C, D in groups of 3

There are only four combinations (ABC, ABD, ACD, and BCD). Listed below each of those combinations are the six permutations that are equivalent as combinations.

ABC	ABD	ACD	BCD
ABC	ABD	ACD	BCD
ACB	ADB	ADC	BDC
BAC	BAD	CAD	CBD
BCA	BDA	CDA	CDB
CAB	DAB	DAC	DBC
CBA	DBA	DCA	DCB

Probability:

Probability হচ্ছে কোন ঘটনা ঘটার সম্ভাব্যতা।

It indicates the chance that a particular event will occur. Probabilities are expressed as fractions.

$$\text{Probability of an event} = \frac{\text{number of favorable outcomes}}{\text{total number of possible outcomes}}$$

The value of the probability has a range between 0 and 1.

If an event is certain to occur, its probability is 1. If an event is certain *not* to occur, its probability is 0.

Example: If a box contains 9 white marbles, 5 green marbles and 3 black marbles, what is the probability of picking a green marble from the box if one marble is taken without looking?

Solution: Here, probability $= \frac{\text{number of green marbles}}{\text{total number of marbles}}$

$$= \frac{5}{9+5+3}$$

$$= \frac{5}{17}$$

অর্থাৎ green marble ওঠার probability বা সম্ভাব্যতা হচ্ছে $\frac{5}{17}$

Independent Events:

If two events occur simultaneously and the first event does not affect the probability of the second event, then the events are said to be independent of each other.

For two independent events A and B, the probability of A and B both occurring is the product of the probability of A and the probability of B.

Hence, P (A and B) = P (A) × P (B)

Example: If someone draws a card at random from a deck, and then, without replacing the first card, draws a second card, what is the probability that both cards will be aces?

Solution: In a deck, there are 52 cards. Among them, 4 are aces. The probability that the first card is an ace is $P(A) = \frac{4}{52}$

Since the first ace has been drawn, there are now 3 aces and the deck has 51 cards. Thus, the probability that the second card is an ace is $P(B) = \frac{3}{51}$

Therefore, the probability that both cards are aces is P (A and B) = P (A) × P (B)

$$= \frac{4}{52} \times \frac{3}{51}$$

$$= \frac{1}{13} \times \frac{1}{17}$$

$$= \frac{1}{221}$$

Mutually Exclusive Events:

Two events are said to be mutually exclusive, if it is IMPOSSIBLE for both to occur simultaneously.

For example, boys cannot be chosen from a group of girls and girls cannot be chosen from a group of boys. So choosing boys and choosing girls are said to be mutually exclusive.

For two mutually exclusive events A or B, the probability that either of them will occur is the addition of the probability of A and the probability of B.

Hence, P (A or B) = P (A) + P (B)

Example: What is the probability of rolling a dice and getting either 1 or 6?

Solution: Since it is impossible to get both 1 and 6, these two events are mutually exclusive.

Therefore,

$$P(1 \text{ or } 6) = P(1) + P(6)$$

$$= \frac{1}{6} + \frac{1}{6}$$

$$= \frac{1}{3}$$

N.B. the probability of happening an event + the probability of not happening that event = 1

Review Exercise – 6

1. *Four flower-vessels are to be arranged in a row from seven different colored vessels. How many different arrangements are possible?*
   (A) 35 (B) 120 (C) 720 (D) 840 (E) None of these

2. An office will send a team of 5 members to work on a certain mission. The office has 5 seniors and 6 juniors. If a team consists of 2 senior and 3 junior, how many different such teams can be made?
   (A) 120 (B) 180 (C) 200 (D) 320 (E) 2400

3. Auntu will be the leader of a drama team. In how many ways can a team of 6 members be chosen from a total of 10 people given that Auntu must be in that team?
   (A) 210 (B) 180 (C) 156 (D) 140 (E) 126

4. In how many ways can 5 books be selected from a bundle of 11 books if 3 particular books are always excluded?
   (A) 48 (B) 56 (C) 240 (D) 462 (E) 6720

5. A box contains 50 balls, numbered from 1 to 50. If three balls are selected one by one at random with replacement from the box, what is the probability that the sum of the three numbers on the balls will be even?
   (A) $\frac{1}{4}$ (B) $\frac{3}{8}$ (C) $\frac{1}{2}$ (D) $\frac{5}{8}$ (E) $\frac{3}{4}$

6. There are six different models that are to appear in a fashion show. Two are from Europe, two are from Asia, and two are from North America. If all the models from the same continent are to stand next to each other, how many ways can the fashion show organizer arrange the models?
   (A) 8 (B) 24 (C) 48 (D) 64 (E) 72

7. *If an integer is randomly chosen from the first 100 natural numbers, what is the probability that a number with a digit of 5 will be selected?*
   (A) 10% (B) 19% (C) 20% (D) 23% (E) None of these

8. There are 5 doors in IBA hostel lounge. Two are red colored and the others are green. In how many ways can a guy enter the room and leave the room from different colored doors?
   (A) 2 (B) 5 (C) 6 (D) 12 (E) None of these

9. A bag contains 6 green marbles and 7 blue marbles. Two marbles are picked at random from the bag without returning. What is the probability of picking a green marble first and then a blue marble?
   (A) $\frac{1}{42}$ (B) $\frac{13}{42}$ (C) $\frac{4}{9}$ (D) $\frac{7}{26}$ (E) None of these

10. A bag contains 14 black balls, 6 green balls and 4 white balls. A ball is picked from the bag at random. Find the probability of picking either a black or a white ball.
    (A) $\frac{1}{12}$ (B) $\frac{2}{3}$ (C) $\frac{3}{4}$ (D) $\frac{1}{4}$ (E) $\frac{7}{72}$

11. A club has 8 male and 5 female members. The club is choosing a committee of 7 members. The committee must have exactly 3 female members. How many different committees can be chosen?
    (A) 100800 (B) 720 (C) 700 (D) 560 (E) 550

12. If two cards are drawn at random from a deck of 52 cards, what is the probability that both the cards will be from heart suit?

(A) $\frac{1}{17}$ (B) $\frac{2}{17}$ (C) $\frac{2}{13}$ (D) $\frac{1}{26}$ (E) None of these

13. A bag contains 4 red marbles, 10 blue marbles, and 6 yellow marbles. If 3 marbles are removed at random and no marble is returned to the bag after removal, what is the probability that all three marbles will be blue?

(A) $\frac{1}{2}$ (B) $\frac{1}{8}$ (C) $\frac{3}{20}$ (D) $\frac{2}{19}$ (E) $\frac{3}{8}$

14. A restaurant offers 3 appetizers, 5 main courses, and 2 desserts at dinner. A dinner must contain an appetizer, 2 main courses, and a dessert. How many different combinations of dinner can be made?

(A) 10 (B) 15 (C) 30 (D) 42 (E) 60

15. A credit card number has 5 digits (between 1 to 9 only). The first two digits are 1 and 2 in that order, the third digit is greater than 6, the fourth is divisible by 3 and the fifth digit is a prime number. How many different credit card numbers can be formed under the given conditions?

(A) 27 (B) 36 (C) 45 (D) 72 (E) 112

16. A box contains 10 light bulbs, and 2 of the 10 light bulbs are defective. Three of the 10 bulbs are taken randomly one by one from the box. Find the probability that there is exactly one defective bulb out of the 3 bulbs taken from the box.

(A) $\frac{11}{72}$ (B) $\frac{9}{17}$ (C) $\frac{2}{10}$ (D) $\frac{7}{15}$ (E) $\frac{6}{10}$

17. In how many ways can a committee of 5 members be formed from 3 women and 5 men such that majority of the committee must be hold by the men?

(A) 30 (B) 45 (C) 46 (D) 56 (E) None of these

18. The town council has decided to put up 4 buildings from a variety of 8 available buildings – A, B, C, D, E, F, G and H. Buildings A, B, C are of type 1, D, E, F are of type 2 and G and H are of type 3. What is the probability that the four buildings will all be of the same type?

(A) $\frac{9}{64}$ (B) 0 (C) $\frac{1}{2}$ (D) $\frac{3}{4}$ (E) None of these

19. What is the probability of rolling a six-sided dice three times, and getting a different number each time?

(A) $\frac{1}{12}$ (B) $\frac{1}{3}$ (C) $\frac{4}{9}$ (D) $\frac{5}{9}$ (E) $\frac{7}{18}$

20. If two cards are drawn at random from a deck of 52 cards, what is the probability that one of the cards is a spade and the other card is a club?

(A) $\frac{13}{102}$ (B) $\frac{13}{204}$ (C) $\frac{1}{2}$ (D) $\frac{1}{26}$ (E) None of these

21. In how many ways can a teacher arrange 4 girls and 4 boys in a row of 8 seats if the girls or the boys are to have the 1st, 3rd, 5th and 7th seats?

(A) 24 (B) 48 (C) 120 (D) 576 (E) 1152

22. A man and a woman appeared for an interview. The probability of the man to be selected is 1/7 and that of the woman is 1/5. What is the probability that only one of them will be selected?

(A) $\frac{11}{35}$ (B) $\frac{12}{35}$ (C) $\frac{2}{7}$ (D) $\frac{4}{35}$ (E) $\frac{6}{35}$

23. On average, a shooter hits the target once every 3 shots. What is the probability that he will hit the target at least once in 3 shots?

(A) 1 (B) $\frac{8}{27}$ (C) $\frac{1}{3}$ (D) $\frac{19}{27}$ (E) None of these

24. If two cards are drawn at random from a deck of 52 cards, what is the probability that both the cards will be from the same suit?

(A) $\frac{1}{17}$ (B) $\frac{2}{17}$ (C) $\frac{4}{17}$ (D) $\frac{1}{26}$ (E) None of these

25. Riyad has 5 Math books and 2 Analytical Ability books. He will gift 3 books to one of his friends. In how many ways can he prepare the gift-box if at least one Analytical Ability book must be there?

(A) 10 (B) 20 (C) 25 (D) 30 (E) 35

Answer keys

1. D	6. C	11. C	16. D	21. E
2. C	7. B	12. A	17. C	22. C
3. E	8. D	13. D	18. B	23. D
4. B	9. D	14. E	19. D	24. C
5. C	10. C	15. B	20. A	25. C

Geometry Review

- Angles, Triangles
  - Equilateral Triangle, Isosceles Triangle, Scalene Triangle
  - Right Triangle, Obtuse Angled Triangle, Acute Angled Triangle
- Quadrilaterals, Polygon
  - Rectangle, Parallelogram, Square, Rhombus
  - Trapezoid
- Circle, Clock Related Problems, Rotation of Wheel.
- Solid Geometry
- Coordinate Geometry

❖ CHAPTER OUTILINE

- ✓ Angles
- ✓ Triangles
  - Equilateral Triangle, Isosceles Triangle, Scalene Triangle
  - Right Triangle, Obtuse Angled Triangle, Acute Angled Triangle

IBA Admission Test-এ Basic Geometric Concept test করা হয়।

Basic geometric terms, figures এবং কিছু theorem জানলে এবং কিছু short-cut পদ্ধতি আয়ত্ত করতে পারলে problem গুলো allocated time এর চেয়ে কম সময়ে করা সম্ভব।

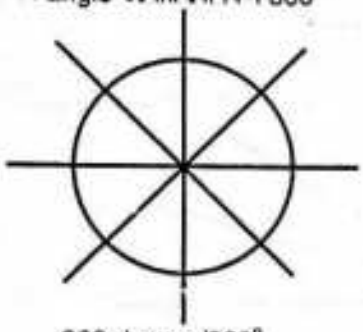
Angle: Angle এর শীর্ষবিন্দুকে vertex এবং দুই বাহুকে leg বলে। $\angle$ sign দিয়ে angle indicate করা হয়।

মনে রাখতে হবে,

i. Circle তার center-এ 360° angle ধারণ করে।

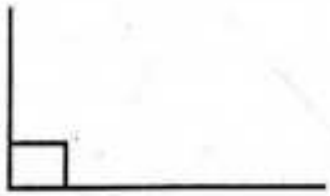
ii. দুটি line intersect করলে যে চারটি angle পাওয়া যায় তাদের সমষ্টি 360°

iii. একটি বিন্দুর চারদিকে সৃষ্ট সব angle গুলোর যোগফল 360°



360 degree/360°

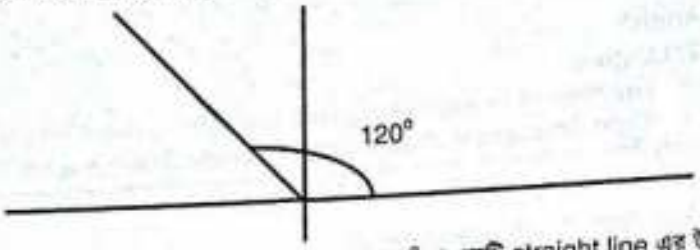
Right Angle: 90° angle কে right angle (সমকোণ) বলা হয় এবং vertex এ একটি ছোট box ⌐ দিয়ে right angle indicate করা হয়।



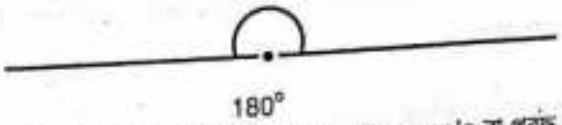
দুটি line point of intersection-এ 90° angle সৃষ্টি করলে তাদের পরস্পরকে পরস্পরের উপর perpendicular বা লম্ব বলা হয় এবং $\perp$ sign ব্যবহার করে তাদের চিহ্নিত করা হয়। একটি angle দৃশ্যত 90° হলে তাকে right angle ধরে problem solve করা চলবে না। $\perp$ বা ⌐ sign অথবা 90° বা right angle উল্লেখ থাকতে হবে।

Acute Angle: Acute angle (সুক্ষ্ম কোণ) হলো 0° থেকে বড় কিন্তু 90° থেকে ছোট একটি angle.

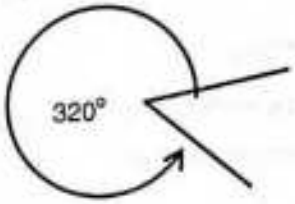
Obtuse Angle: Obtuse angle (স্থূল কোণ) হলো 90° থেকে বড় কিন্তু 180° থেকে ছোট একটি angle.



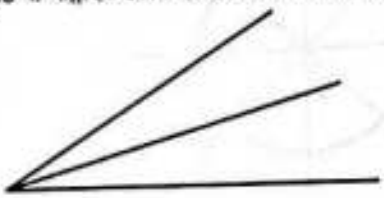
Straight angle: সরল কোণ বা straight angle হচ্ছে 180° বা একটি straight line এর উপরের angle.



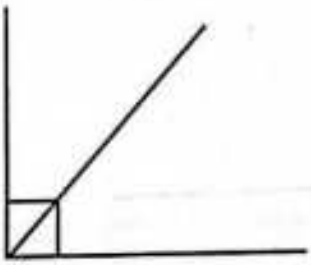
Reflex angle: 180° থেকে বড় কিন্তু 360° থেকে ছোট angle কে reflex angle বা প্রবৃদ্ধ কোণ বলা হয়।



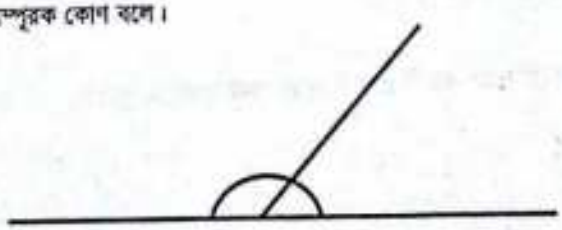
Adjacent Angles: Adjacent angle বা সন্নিহিত কোণ হচ্ছে common vertex এবং একটি common leg বিশিষ্ট দুটি angle.



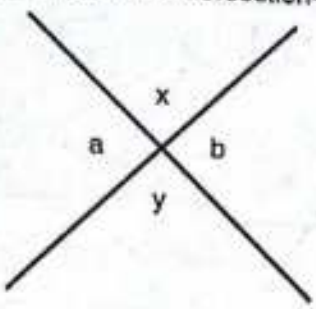
Complementary Angles: দুটি adjacent angle এর যোগফল 90° হলে তারা পরস্পরের complementary angle (complements) বা পূরক কোণ।



Supplementary Angles: দুটি adjacent angle এর সমষ্টি 180° হলে তাদের পরস্পরকে পরস্পরের supplementary angle (supplements) বা সম্পূরক কোণ বলে।

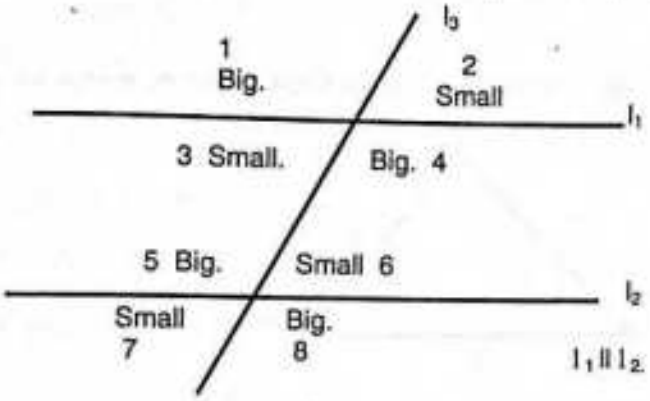


Vertical Angle: দুটি line এর point of intersection-এ দুই pair vertical angle (বিপ্রতীপ কোণ) পাওয়া যায়।



$x = y$ $\quad a+b+x+y = 360^\circ$
$a = b$

Fred's Theorem: l_1 এবং l_2 Parallel হলে ($l_1 \parallel l_2$) এবং l_3 (transversal বা ছেদক) তাদেরকে intersect করলে যে ৮ টি angle সৃষ্টি হয় তাদের relation খুব সহজে express করা যায়।



এখানে, সবগুলো Big angle সমান এবং সবগুলো Small angle সমান।

1=4, 2=3, 5=8, 6=7 (Vertically opposite angles)

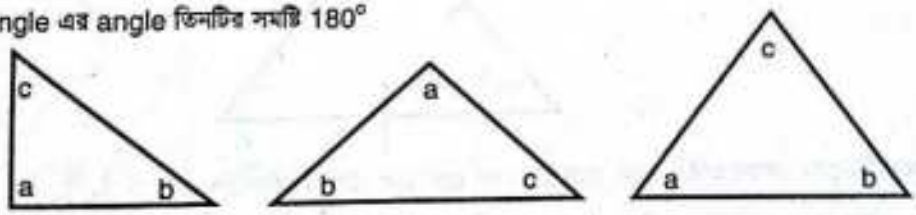
1=5, 2=6, 3=7, 4=8 (Corresponding angles)

3=6, 4=5 (Alternate angles)

Triangles:

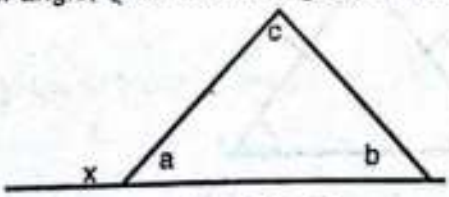
Some properties of triangle are as follows:

i. Triangle এর angle তিনটির সমষ্টি 180°



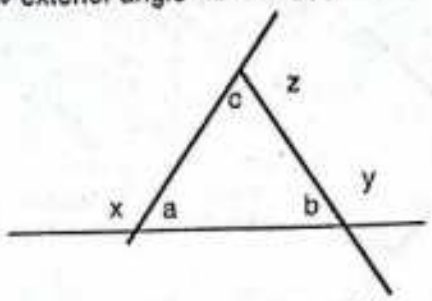
ii. Triangle এর যে কোন দুটি side এর সমষ্টি 3rd side এর চেয়ে বড় (side length limitation)

iii. যেকোন একটি exterior angle, দূরবর্তী interior angle দুটির সমষ্টির সমান।



$\angle x = \angle b + \angle c$

iv. তিনটি vertex-এ তিনটি exterior angle এর সমষ্টি 360°

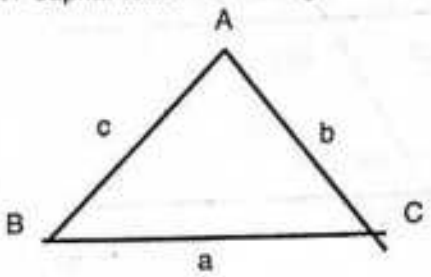


$x + y + z = 2(a + b + c) = 360^\circ$

v. Δ-sign দ্বারা triangle indicate করা হয়।

Angle-Side relationship :

i.Triangle এর angle গুলোকে capital letter এ এবং angle গুলোর বিপরীত বাহু গুলোকে তার small letter এ লেখা হয়।



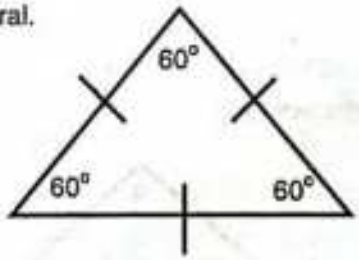
ii. বৃহত্তর কোণের বিপরীত বাহু ক্ষুদ্রতর কোণের বিপরীত বাহু অপেক্ষা বৃহত্তর।

If, $\angle A > \angle B$, then $a > b$

iii. বৃহত্তর বাহুর বিপরীত কোণ ক্ষুদ্রতর বাহুর বিপরীত কোণ অপেক্ষা বৃহত্তর।

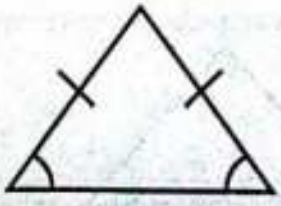
If $a > b$, then $\angle A > \angle B$.

Equilateral Triangles: Equilateral triangle বা সমবাহু ত্রিভুজের side এবং angle তিনটি সমান। That means, angle তিনটি বা side তিনটি সমান হলে triangle টি equilateral.



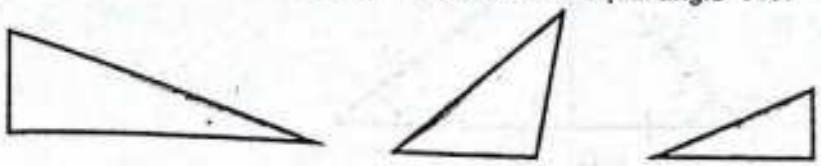
N.B. সমবাহু ত্রিভুজের ভেতর অঙ্কিত কোন বৃত্তের ক্ষেত্রফল πa^2 হলে, উক্ত ত্রিভুজের ক্ষেত্রফল $= 3\sqrt{3}a^2$.

Isosceles Triangles: Isosceles বা সমদ্বিবাহু ত্রিভুজের দুটি side এবং দুটি angle সমান।



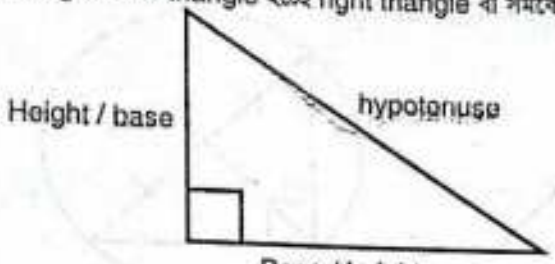
N.B. Triangle এর equal দুটি side এর opposite angle দুটি সমান এবং equal দুটি angle এর opposite side দুটি সমান।

Scalene Triangles: Scalene বা বিষম বাহু ত্রিভুজে কোন equal side বা equal angle নেই।



N.B. In any triangle, largest angle is opposite of the longest side.

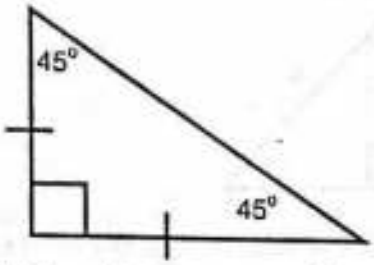
Right Triangle: একটি 90° angle বিশিষ্ট triangle হচ্ছে right triangle বা সমকোণী ত্রিভুজ।



N.B. i. Hypotenuse বা অতিভুজ right triangle এ বৃহত্তম side.

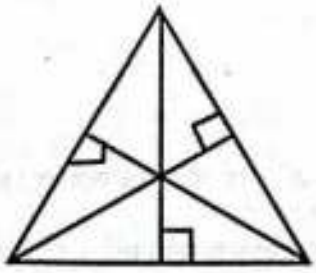
ii. একটি triangle- এ একাধিক right angle বা obtuse angle থাকা সম্ভব নয়।

Isosceles Right Triangle: এই right triangle-এ base এবং height সমান।

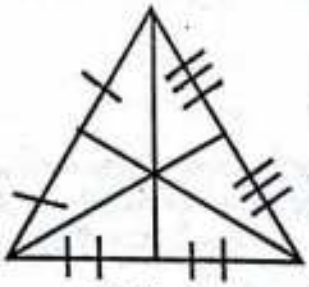


N.B. i. একটি angle 90° এবং Isosceles বলে অন্য কোণ দুটি সমান 45° করে।

Height and Median: Height হচ্ছে vertex থেকে opposite side এর উপর লম্ব এবং median হচ্ছে vertex এবং opposite side এর mid-point সংযোগকারী রেখা।

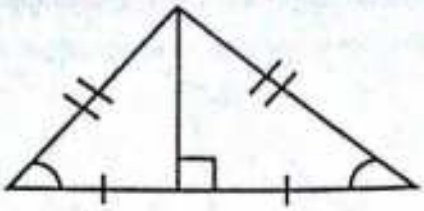


Height



Median

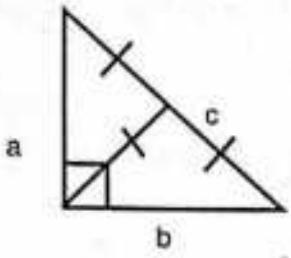
N.B. i. Isosceles এবং equilateral triangle-এ height এবং median একই line (Isosceles এ base-এর উপর)

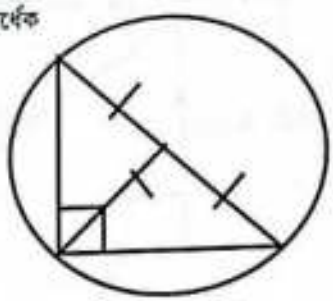


Isosceles.

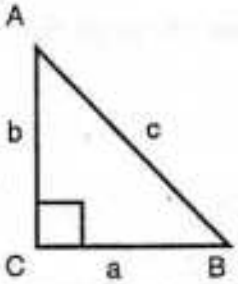
ii. Median triangle কে সমান দুটি ক্ষেত্রে বিভক্ত করে।

iii. সমকোণী শীর্ষ থেকে median hypotenuse এর অর্ধেক





Pythagorean Theorem: পিথাগোরাসের উপপাদ্য অনুযায়ী right triangle ABC- এ c hypotenuse হলে, $c^2 = a^2 + b^2$.



এই equation ব্যবহার করে দুটি side এর মান জানা থাকলে 3rd side বের করা যায়।

Example: Right triangle ABC-এ c hypotenuse,

$a = 10, b = 10\sqrt{3}$ হলে $c = ?$

$c^2 = a^2 + b^2$

$= 10^2 + (10\sqrt{3})^2$

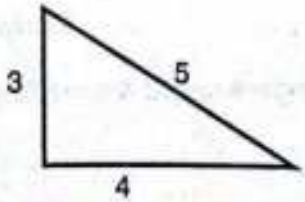
$= 100 + 100 \times 3$

$= 400$

$\therefore c = 20$

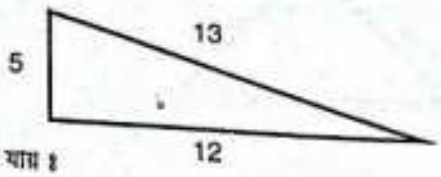
Pythagorean Triples: Right triangle-এ side গুলোর length $c^2 = a^2 + b^2$ শর্ত পূরণ করে যে কোন রকম হতে পারে তবে কিছু ratio আছে যেগুলো মনে রাখতে পারলে কম সময়ে 3rd side নির্ণয় করা যায়।

i. 3: 4: 5, এই অনুপাতে একটি side 3, আরেকটি side 4 এবং hypotenuse 5 হবে। ($5^2 = 4^2 + 3^2$)



N. B. যেহেতু এটি একটি ratio, side গুলো 3 : 4 : 5 এর যেকোন multiple হতে পারে (6 : 8 : 10 বা 30 : 40 : 50 ইত্যাদি)

ii. 5 : 12 : 13 এই অনুপাত অনুযায়ী একটি side 5, আরেকটি side 12 এবং hypotense 13 কিংবা side গুলো 5 : 12 : 13 এর যে কোন multiple.



একইভাবে আরো কিছু অনুপাত পাওয়া যায় ঃ

7n : 24n : 25n

9n : 40n : 41n

11n : 60n : 61n

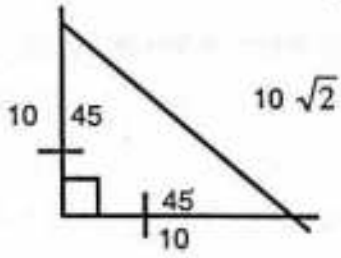
8n : 15n : 17n

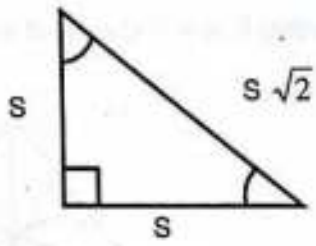
Example : Right triangle-এ hypotenuse 51 এবং একটি side 45 হলে অপর side কত?

এক্ষেত্রে ratio টি হচ্ছে 8n : 15n : 17n; n = 3;

∴ অপর side 24

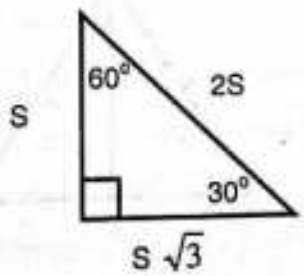
iv. S : S : $S\sqrt{2}$; যেখানে S একটি side এর মান। এই ratio টি মূলত Isosceless right triangle-এর জন্য প্রযোজ্য। অর্থাৎ angle গুলো 90°, 45°, 45° হলে hypotenuse এর মান side গুলোর $\sqrt{2}$ গুণ হবে।

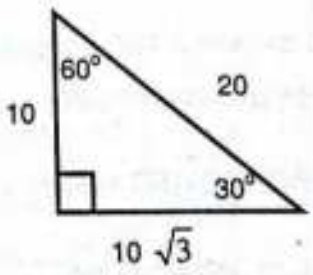




v. S : $S\sqrt{3}$: 2S; S যেখানে 30° এর opposite side.

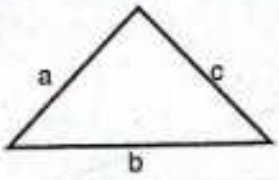
এই ratio টি right triangle-এ অন্য angle দুটি 30° ও 60° হলে apply করা যায়। এক্ষেত্রে 60° এর opposite, side 30° এর opposite side এর $\sqrt{3}$ গুণ এবং hypotenuse 30° এর opposite side-এর 2 গুণ।





N.B. iv এবং v এই ratio দুটি খুবই important কেননা এই ratio দুটি মনে থাকলে Trigonometric relation avoid করা যাবে।

Perimeter of a Triangle: ত্রিভুজের তিন বাহুর সমষ্টি হচ্ছে perimeter বা পরিসীমা।



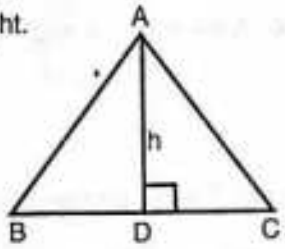
Here, perimeter = a + b + c

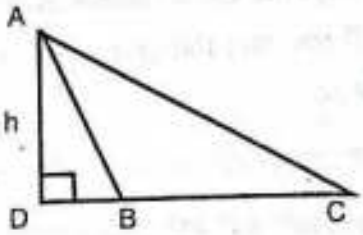
Equilateral triangle এর একটি side a হলে, Perimeter = 3a.

Area of a triangle:

i) Triangle এর যেকোন একটি side কে base ধরে, বিপরীত vertex -থেকে তার উপর লম্ব h হলে,

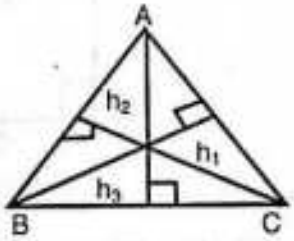
Area = $\frac{1}{2}$ × base × height.



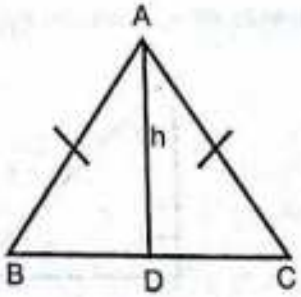


Area of Δ ABC = $\frac{1}{2}$ BC × h

ΔABC এ B হতে AC এর উপর লম্ব h_1 এবং C হতে AB এর উপর h_2 এবং A থেকে BC-এর উপর লম্ব h_3 হলে



Area of Δ ABC = $\frac{1}{2}$ AC × h_1 = $\frac{1}{2}$ AB × h_2 = $\frac{1}{2}$ BC × h_3



ii) ΔABC-এ AB = AC হলে, অর্থাৎ Δ ABC - isosceles হলে

এবং h height হলে, D বিন্দু BC -এর মধ্যবিন্দু হবে।

Area of Δ ABC = $\frac{1}{2}$ BC × AD = BD × AD

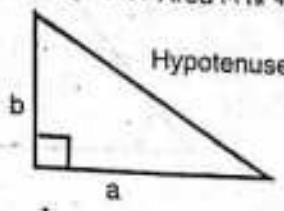
iii) equilateral triangle-এর একটি side x হলে

h = $\frac{\sqrt{3}}{2}$ x হবে এবং Area = $\frac{\sqrt{3}}{4}$ x^2 হবে।

Example: Equilateral triangle ABC- এর এক বাহু 2 c.m. হলে area =?

$$\text{Area} = \frac{\sqrt{3}}{4} 2^2 \text{ cm}^2 = \sqrt{3} \text{ cm}^2$$

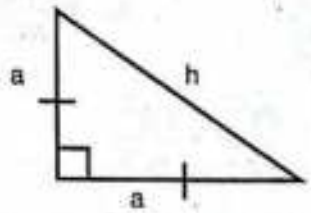
iv) Right angle-এর ক্ষেত্রে Perpendicular side দুটি থেকে Area নির্ণয় করতে হবে।



$$\text{Area} = \frac{1}{2} a \times b$$

v) Isosceles right triangle- এর ক্ষেত্রে $h = \sqrt{2}\, a$

$$\text{Area} = \frac{1}{2} a^2 = \frac{h^2}{4} \quad [2a^2 = h^2]$$



Example : Isosceles right triangle- এর hypotenuse 2 c.m হলে, Area = $\frac{2^2}{4}$ cm^2 = 1 cm^2

vi) Δ ABC এর তিনটি বাহু a, b ও c হলে,

Area = $\sqrt{s(s-a)(s-b)(s-c)}$ যখন $s = \frac{a+b+c}{2}$

N.B. i) Median একটি triangle কে সমান area বিশিষ্ট দুটি triangle-এ বিভক্ত করে।

Congruency of Triangles:

দুটি triangle congruent হলে, এদের একটির Side গুলো অপরটির side এবং একটির angle গুলো অপরটির একই রকম angle গুলোর সমান। এদের area সমান, একই রকম height গুলো সমান। $\equiv$ Sign দিয়ে দুটি triangle congruent বোঝানো হয়। দুটি triangle সর্বসম বা congruent হবে যদি :

i) একটির তিনটি side অপরটির তিনটি side এর সমান হয়।

ii) একটির যে কোন দুটি বাহু এবং অন্তর্ভুক্ত কোণ অপরটির দুটি বাহু এবং অন্তর্ভুক্ত কোণের সমান হয়।

iii) একটির দুটি কোণ এবং একটি বাহু অপরটির দুটি কোণ এবং অনুরূপ বাহু (একই রকম কোণ সংলগ্ন বাহু) সমান হয়।

iv) দুটি right triangle এর hypotense দুটি এবং অপর একটি বাহু সমান হয়।

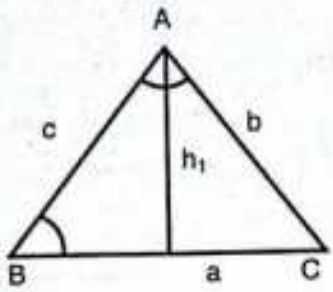
N.B. i) একটির তিনটি angle অপরটির তিনটি angle এর সমান হলে triangle দুটি similar, congruent নয়।

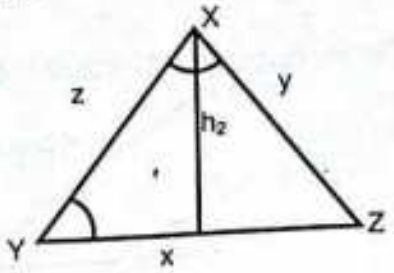
ii) একটি triangle এর দুটি angle অপরটির দুটি angle এর সমান হলে, স্বাভাবিকভাবেই 3rd angle দুটিও সমান।

iii) দুটি right triangle এর hypotenure সমান এবং একটি side সমান হলে 3rd side সমান হবে।

Similar Triangles:

একটি triangle এর 3 টি angle অন্য একটি triangle এর 3 টি angle এর সমান হলে, triangle দুটি similar.





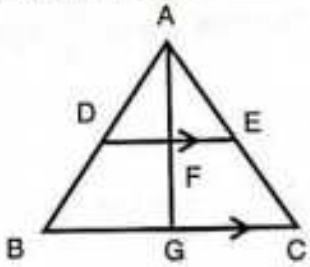
$\angle A = \angle X$, $\angle B = \angle Y$ হলে স্বাভাবিকভাবেই $\angle C = \angle Z$ হবে।

দুটি similar triangle এর যেকোন দুটি corresponding side এর ratio সমান হবে। Height এর ratio-ও এদের সমান হবে।

i) $\frac{AB}{XY} = \frac{BC}{YZ} = \frac{CA}{ZX} = \frac{h_1}{h_2}$ বা, ii) $\frac{AB}{BC} = \frac{XY}{YZ}$

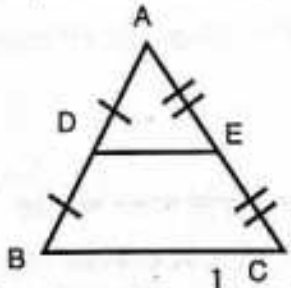
iii) $\frac{Area\Delta ABC}{Area\Delta XYZ} = \frac{AB^2}{XY^2} = \frac{BC^2}{YZ^2} = \frac{CA^2}{ZX^2}$

iv) Triangle এর একটি -side এর parallel কোন line দুটি similar triangle তৈরী করে।



DE ll BC হলে, Δ ADE এবং Δ ABC similar আবার AF ⊥ DE হলে AG ⊥ BC হবে এবং Δ AFE ও Δ AGC similar হবে।

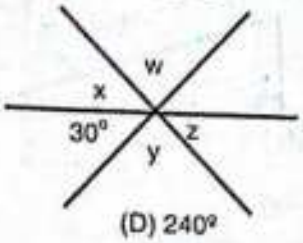
v) Triangle এর যেকোন দুই side এর mid-points যোগ করলে তা 3rd side এর parallel এবং length এ অর্ধেক হবে।



AB এর মধ্যবিন্দু D এবং AC এর মধ্যবিন্দু E হলে, $DE = \frac{1}{2}$ BC এবং DE ll BC এবং Δ ADE ও Δ ABC similar. এই hypothesis এর Opposite hypothesis ও সঠিক।

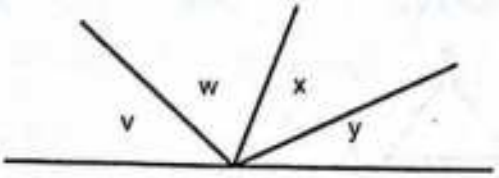
vi) AB এর মধ্যবিন্দু D থেকে BC এর parallel line অংকন করলেও E, AC এর মধ্যবিন্দু হবে।

Review Exercise – 1



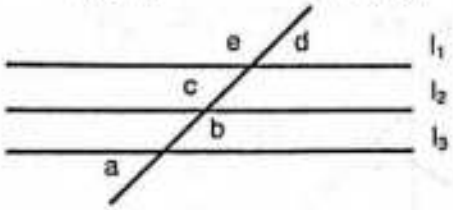
1. In the figure above, w + x + y + z =?

(A) 330° (B) 300° (C) 270° (D) 240° (E) 210°



2. In the figure above, v = 2w, w = 2x and $x = \frac{y}{3}$. What is the value of y?

(A) 18° (B) 36° (C) 45° (D) 54° (E) 60°



3. In the figure above, $l_1 \parallel l_2 \parallel l_3$. What is the value of a + b +c + d+ e?

(A) 180° (B) 270° (C) 360° (D) 450° (E) cannot be determined.

4. The perimeter of a right triangle is 18 inches. If the midpoints of the three sides are joined by line segments, they form another triangle. What is the perimeter of this new triangle?

(A) 3 inches (B) 6 inches (C) 9 inches (D) 12 inches (E) Cannot be determined

5. What is the angle that is half of its own complement?

(A) 30° (B) 45° (C) 60° (D) 90° (E) 120°

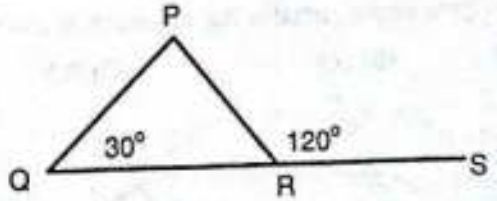
6. What is the length of the hypotenuse of an isosceles right triangle with an area of 32?

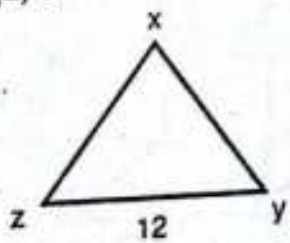
(A) 4 (B) $4\sqrt{2}$ (C) 8 (D) $8\sqrt{2}$ (E) $\sqrt{3}$

7. In Δ PQR shown beside, if QR = 6, PR =?

(A) 12 (B) $6\sqrt{3}$ (C) 6

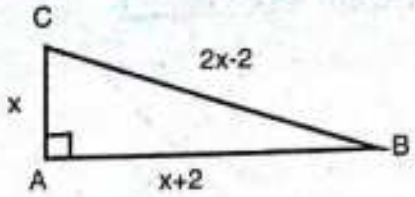
(D) $3\sqrt{3}$ (E) 3





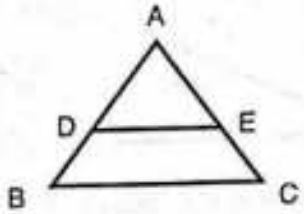
8. If ∠xyz = ∠xzy and area of Δ xyz is 48. What is the perimeter of the figure above?

(A) 32 (B) 36 (C) 40 (D) 44 (E) 48



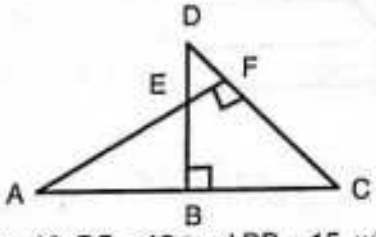
9. In the right triangle ABC above, x =?

(A) 6 (B) 8 (C) $6\sqrt{2}$ (D) 10 (E) 13



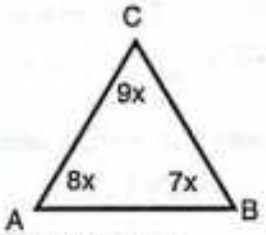
10. In the figure shown above DE is parallel to BC. If the area of triangle ADE is half that of trapezoid DECB, what is the ratio of AE to AC?

(A) 1:2 (B) $1:\sqrt{2}$ (C) 1:3 (D) $1:\sqrt{3}$ (E) $1:\sqrt{5}$



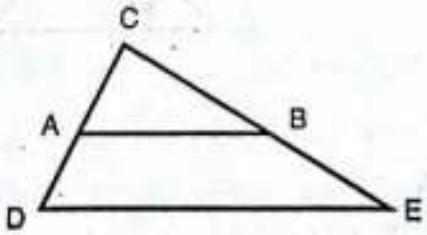
11. In the figure above, if AC = 12, DC = 18, and DB = 15, what is the length of AF?

(A) 8 (B) 9 (C) 10 (D) 12 (E) 18



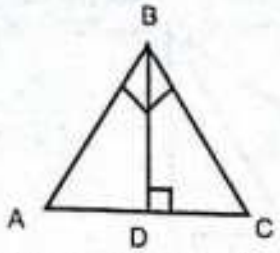
12. In the figure above, what is the measure of ∠A?

(A) 45º (B) 60º (C) 70º (D) 75º (E) 90º



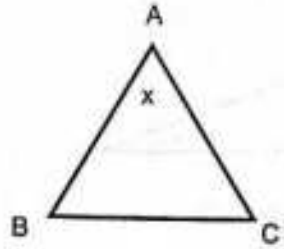
13. In the triangle CDE above, AD = BE and CD<CE. Which of the following is true?

(A) CA>CB (B) CA<CB (C) CB>CE (D) CD<CA (E) AB II DE



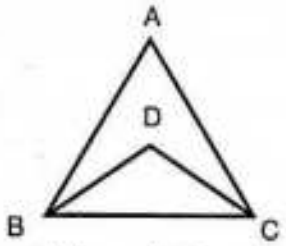
14. In triangle ABC above, ∠ABC is a right angle, AB = BC and BD ⊥ AC. Which of the following, if any, is not a 45-degree angle?

(A) ∠BAD (B) ∠BCD (C) ∠CBD (D) ∠ABD (E) none of these



15. In the figure above AB = AC, measure of ∠A = x°. Measure of ∠B =?

(A) x - 180 (B) x-90 (C) 180-2x (D) 180-x (E) $90 - \frac{x}{2}$



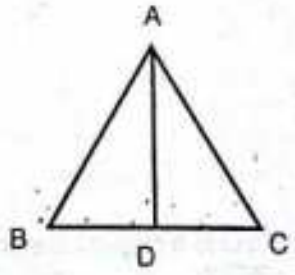
16. BD and CD are the bisectors of the angle B and angle C in isosceles triangle ABC. Angle A = 70°. Angle BDC =?

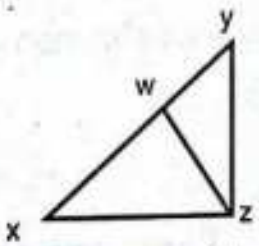
(A) 55° (B) 70° (C) 110° (D) 125° (E) 140°

17. In the figure beside AB = AC = 5, BC = 6. Altitude AD =?

(A) 3 (B) 4 (C) 5

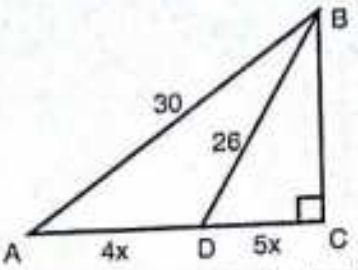
(D) $5\sqrt{2}$ (E) $5\sqrt{3}$





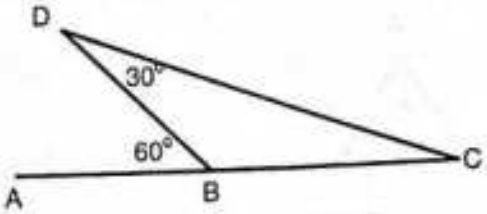
18. In the figure above, the ratio of the area of Δ wxz to the area of Δ wyz is 7: 2. If xy = 21, wy =?

(A) 7 (B) $\frac{14}{3}$ (C) 14 (D) $\frac{21}{2}$ (E) $\frac{21}{4}$



19. In the figure above, AD = 4x and DC = 5x. What is the length of BC?

(A) 10 (B) 16 (C) 18 (D) 20 (E) 24

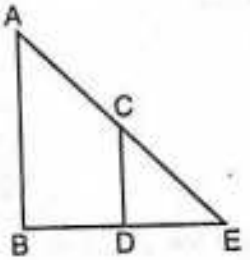


20. In the figure above BC = 4, what is the length of BD?

(A) $\sqrt{2}$ (B) 4 (C) $4\sqrt{2}$ (D) $4\sqrt{3}$ (E) 8

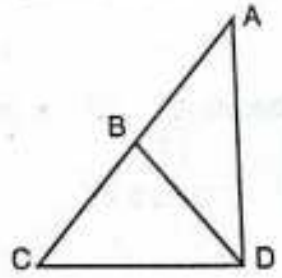
21. In the following diagram, AB and CD are both perpendicular to BE. If EC = 5, and CD = 4, what is the ratio of AB to BE?

(A) 1:1
(B) 4:3
(C) 5:4
(D) 5:3
(E) None of these



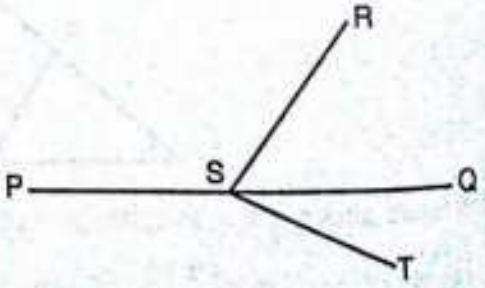
22. In the following diagram, if BC = CD = BD = 1, and ∠ADC is a right angle, what is the perimeter of ΔADC?

(A) 3
(B) 2 + √2
(C) 2 + √3
(D) 3 + √3
(E) 4



23. In the figure, PSQ is a straight line and RS is perpendicular to ST. If ∠RSQ = 48°, how many degrees are there in ∠PST?

(A) 48°
(B) 132°
(C) 90°
(D) 136°
(E) 138°

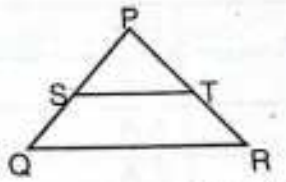


24. In the figure below, QR is parallel to ST and PQ > PR. If ∠PTS = 35°, which of the following can be a value of ∠PQR?

(i) 25°

(ii) 30°

(iii) 35°



(A) only i (B) only ii (C) only iii (D) both i and ii (E) both ii and iii

25. Riyad walks 7 kms, turns left and walks 5 kms, and again turns left and walks 4 kms. How far in kilometers is he now from the starting point?

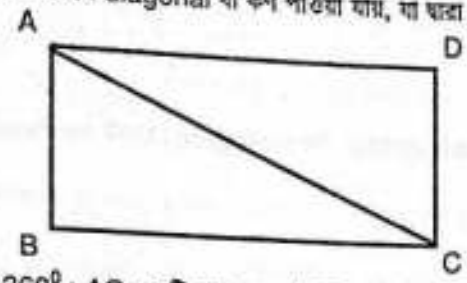
(A) $\sqrt{16}$ (B) $\sqrt{8}$ (C) $\sqrt{7}$ (D) $\sqrt{4}$ (E) $\sqrt{34}$

Answer keys

1. B	6. D	11. C	16. D	21. B
2. D	7. E	12. B	17. B	22. D
3. E	8. A	13. B	18. B	23. E
4. C	9. A	14. E	19. E	24. D
5. A	10. D	15. E	20. B	25. E

- ✓ Quadrilaterals
  - Rectangle, Parallelogram, Square, Rhombus
  - Trapezoid
- ✓ Polygons

Quadrilaterals: Quadrilaterals বা চতুর্ভুজ চারটি side বিশিষ্ট ক্ষেত্র। Quadrilateral এ চারটি interior angle এর সমষ্টি 360^0। বিপরীত দুইটি vertex যোগ করলে diagonal বা কর্ণ পাওয়া যায়, যা দ্বারা Quadrilateral দুটি triangle-এ বিভক্ত হয়।



এখানে $\angle A+\angle B+\angle C+\angle D = 360^0$। AC একটি diagonal, Quadrilateral ABCD এর Area হলো ΔABC এবং ΔACD এর area-র যোগফল। Perimeter হলো side চারটির যোগফল।

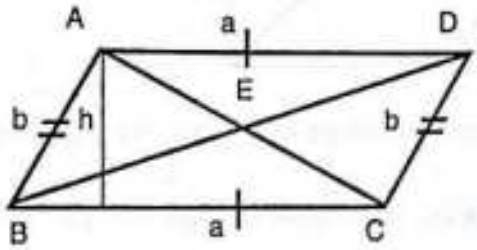
Parallelogram:

i) Quadrilateral এর Opposite side গুলো সমান হলে,

ii) Opposite side গুলো সমান্তরাল হলে, বা

iii) দুটি opposite side সমান ও সমান্তরাল হলে Quadrilateral টি একটি parallelogram বা সামন্তরিক।

Parallelogram ABCD-এ



AB = CD, AB ∥ CD, AD = BC, AD ∥ BC, $\angle A = \angle C$, $\angle B = \angle D$

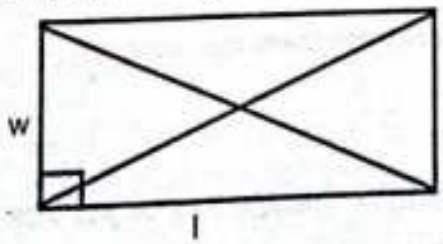
$\Delta AED \equiv \Delta BCE$, $\Delta AEB \equiv \Delta DEC$ এবং ΔABE, ΔBCE, ΔCDE এবং ΔADE-এর area সমান।

AC ও BD diagonal দুটি নিজেরা E বিন্দুতে সমদ্বিখন্ডিত হয়েছে। AE = EC, BE = ED.

Perimeter = 2 (a + b)

Area = BC x h

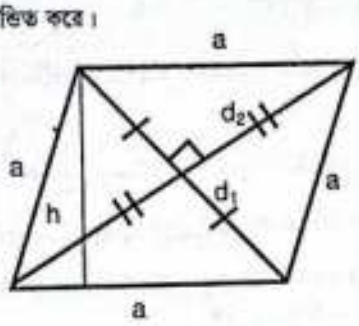
Rectangle: কোন Parallelogram এর angle গুলো 90^0 হলে বা diagonal দুটি সমান হলে সেটি একটি rectangle বা আয়তক্ষেত্র।



Area = lw
Perimeter = 2 (l + w)

N.B. সব rectangle-ই parallelogram কিন্তু সব parallelogram-ই rectangle নয়।

Rhombus: Rhombus অনেকটা Parallelogram এর মত। তবে rhombus-এর চারটি বাহু সমান। Rhombus এর diagonal দুটি পরস্পরকে সমকোণে সমদ্বিখন্ডিত করে।



$P = 4a$

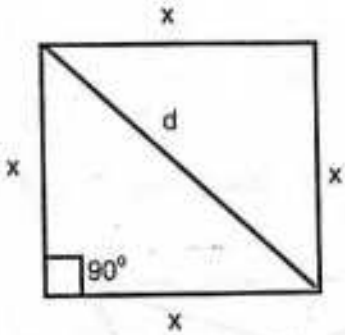
$A = a \times h$

$= \frac{1}{2} d_1 \times d_2$

N. B. d_1 ও d_2 are not necessarily equal.

সব rhombus-ই Parallelogram. কিন্তু কোন Quadrilateral Parallelogram হলেই তা rhombus হবে না। Rhombus এর angle গুলো not necessarily equal to 90^0.

Square: Rhombus এর angle গুলো 90^0 হলে বা diagonal গুলো সমান হলে rhombus টি একটি square. Rectangle-এর বাহুগুলো সমান হলে বা diagonal দুটি লম্বভাবে ছেদ করলে rectangle টি একটি square বা বর্গক্ষেত্র।



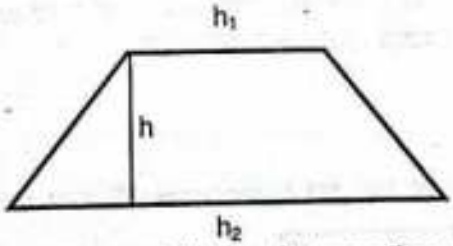
$A = x^2 = \frac{1}{2} d^2$

$P = 4x$

N. B. সব square-ই rhombus এবং rectangle এবং parallelogram. কিন্তু কথাটি বিপরীতক্রমে NOT necessarily true.

$x^2 = \frac{1}{2} d^2$ অর্থাৎ square এর area, diagonal এর উপর অংকিত square এর area-র অর্ধেক।

Trapezoid: Trapezoid-এর যেকোন দুটি opposite side parallel এবং অপর দুটি opposite side nonparallel.



Here parallel sides are h_1 and h_2, and distance between these two sides is h.

Trapezoid-এর Area = $\frac{1}{2}(h_1 + h_2) \times h$

Polygons: Triangle হচ্ছে সবচেয়ে কমবাহু বিশিষ্ট Polygon. Triangle থেকে শুরু করে আরো বেশী সংখ্যক বাহুবিশিষ্ট যেকোন closed ক্ষেত্রকেই polygon বলা হয়। কোন Polygon এর side এর সংখ্যা n হলে,

Total interior angle = $180^0 (n-2)$

Total interior angle of different polygons:

No. of sides (n)	Name	Total interior angle = $180^0(n-2)$
3	Triangle	180^0
4	Quadrilateral	360^0
5	Pentagon	540^0
6	Hexagon	720^0
7	Heptagon	900^0
8	Octagon	1080^0
9	Nonagon	1260^0
10	Decagon	1440^0

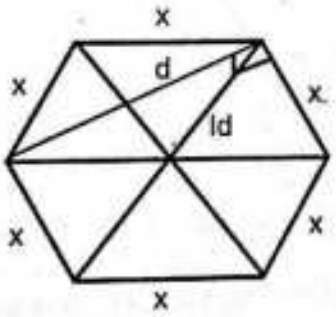
Regular Polygon: কোন Polygon-এর side এবং angle গুলো সমান হলে তাকে Regular Polygon বলে। That means, regular polygon-এর interior angle গুলো সমান হবে। এক্ষেত্রে,

$$\text{Each angle} = \frac{(n-2)180^0}{n}$$

Example: Regular decagon এর একটি angle = $\frac{1440^0}{10} = 144^0$

Hexagon: Hexagon এর 6 টি side। এর sum of the interior angles = 720^0

Regular Hexagon এর একটি Interior angle = $720^0 / 6 = 120^0$



d = diagonal
ld = longest diagonal

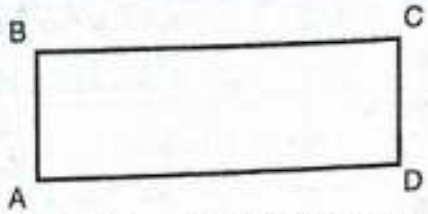
Hexagon এর 9 টি diagonal. Regular Hexagon-এ এর মধ্যে তিনটি longest diagonal.

Regular Hexagon এর longest diagonal = $2x$ (x = একটি side এর length)

Regular Hexagon এর তিনটি longest diagonal hexagon-টিকে 6 টি equilateral triangle –এ বিভক্ত করে।

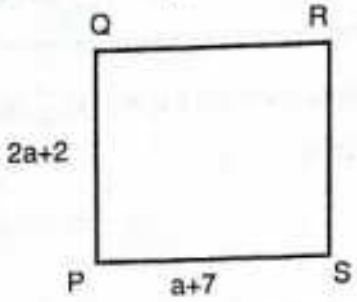
$$\text{Area of a regular hexagon} = 6\times\frac{\sqrt{3}}{4}x^2 = \frac{3\sqrt{3}}{2}x^2$$

Review Exercise – 2



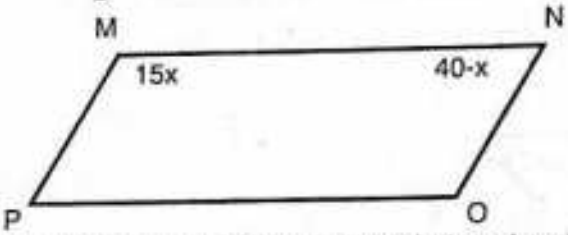
1. In the figure above, if the length of the rectangle is increased by 20%, and the width is decreased by 20%, what will be the change in the area of the rectangle?

(A) 2% increased (B) 2% decreased (C) 4% increased
(D) 4% decreased (E) Unchanged



2. In the figure above, if PQRS is a square. What is the value of a?

(A) $\frac{9}{5}$ (B) $\frac{9}{2}$ (C) 5 (D) 7 (E) 9



3. In the figure above, MNOP is a parallelogram. What is the value of x?

(A) 20 (B) 10 (C) 5 (D) $\frac{25}{7}$ (E) $\frac{5}{2}$

4. If the length of rectangle A is one-half the length of rectangle B, and the width of rectangle A is one-half the width of rectangle B, what is the ratio of the area of rectangle A to the area of rectangle B?

(A) 1 (B) $\frac{1}{2}$ (C) $\frac{1}{3}$ (D) $\frac{1}{4}$ (E) $\frac{1}{8}$

5. In quadrilateral EFGH, the degree measures of its four angles are in the ratio of 2: 3: 5: 6. What is the difference in the degree measures between the largest and smallest angles?

(A) 135° (B) 112.5° (C) 90° (D) 67.5° (E) 45°

6. In quadrilateral ABCD, $\angle A+\angle B+\angle C = 2\angle D$. What is the degree measure of $\angle D$?

(A) 135° (B) 120° (C) 90° (D) 67.5° (E) 45°

7. The length of each side of square A is increased by 100 percent to make square B. Then each side of square B is increased by 50 percent to make square C. By what percent is the area of square C greater than the sum of the areas of square A and B?

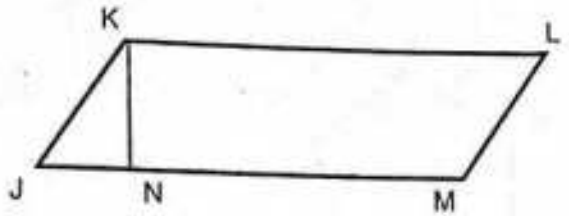
(A) 50% (B) 75% (C) 80% (D) 100% (E) 120%

8. What is the greatest number of rectangles with integer side lengths and perimeter 10 that can be cut from a piece of paper with width 24 and length 60?

(A) 144 (B) 180 (C) 240 (D) 360 (E) 480

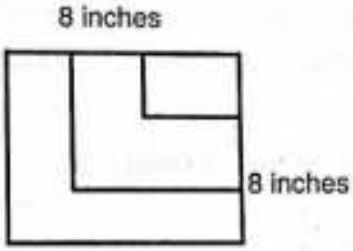
9. The perimeter of a rectangle is 6w. If one side has length $w/2$, what is the area of the rectangle?

(A) $\frac{w^2}{4}$ (B) $\frac{5w^2}{4}$ (C) $\frac{5w^2}{2}$ (D) $\frac{11w^2}{4}$ (E) $\frac{11w^2}{2}$



10. In the figure above, KN is perpendicular to JM. If the area of parallelogram JKLM is n, and if the length of KN is (n + 1/n), then the length of JM is:

(A) $\frac{1}{n}$ (B) $\frac{1}{n+1}$ (C) n+1 (D) $\frac{n^2}{n+1}$ (E) $\frac{n^2}{n^2+1}$



11. The figure above shows a large square formed by fitting 2 L-shaped tiles and one square tile together. If a rectangular floor 10 feet by 12 feet is to be tiled in large squares of this design, how many L-shaped tiles will be needed?

(A) 34 (B) 135 (C) 270 (D) 540 (E) 810

12. What is the perimeter, in meters, of a rectangular play ground 24 meters wide that has a same area as a rectangular play-ground 64 meters long and 48 meters wide?

(A) 112 (B) 128 (C) 224 (D) 256 (E) 304

13. If the diagonal of a square is 16 inches long, what is the area of the square?

(A) 64 sq. inches (B) $64\sqrt{2}$ sq. inches (C) 128 sq. inches
(D) 128 inches (E) 256 sq. inches

14. Square tiles with each side measuring 8 inches, cost 0.09 taka a piece. At this rate, what will be the cost to cover a floor measuring 10 feet by 16 feet?

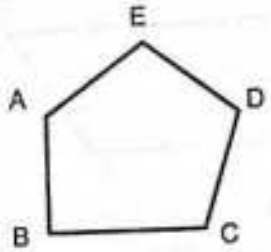
(A) Tk. 22.50 (B) Tk. 25.00 (C) Tk. 28.00 (D) Tk. 32.40 (E) Tk. 36.00

15. The area of a square is $144s^2$. What is the length of the diagonal of the square?

(A) 12s (B) $12s\sqrt{2}$ (C) 24s (D) 144s (E) $144s^2$

16. The area of a square will be doubled if:

(A) the length of the diagonal is divided by 2.
(B) the length of the diagonal is divided by $\sqrt{2}$.
(C) the length of the diagonal is multiplied by 2.
(D) the length of the diagonal is multiplied by $\sqrt{2}$.
(E) none of these.



17. In pentagon ABCDE, AB ⊥ BC. What is the sum of the measures of angles C, D, E and A?

(A) 450° (B) 540° (C) 630° (D) 720° (E) 810°

18. If the side of a square is increased by 150 percent, by what percent does the area increase?

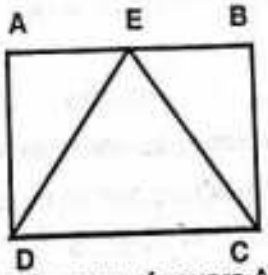
(A) 125% (B) 225% (C) 300% (D) 525% (E) 625%

19. What is the degree measure of an interior angle of a regular nonagon?

(A) 90^0 (B) 100^0 (C) 120^0 (D) 140^0 (E) 150^0

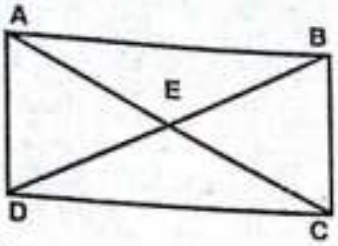
20. What is the area of a regular hexagon with sides equal to 6?

(A) $\frac{3\sqrt{3}}{4}$ (B) $\frac{3\sqrt{3}}{2}$ (C) $3\sqrt{3}$ (D) $9\sqrt{3}$ (E) $54\sqrt{3}$



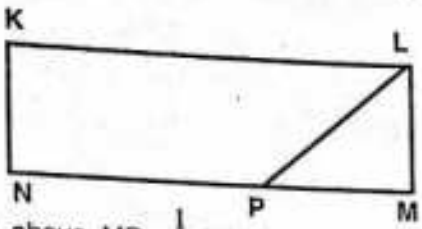
21. What is the ratio of Δ DEC to the area of square ABCD in the figure above?

(A) $\frac{1}{4}$ (B) $\frac{1}{3}$ (C) $\frac{1}{2}$ (D) $\frac{2}{1}$ (E) Cannot be determined



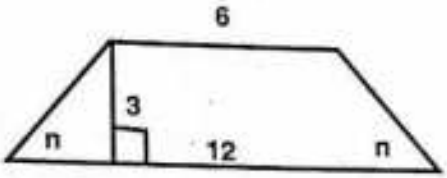
22. In the figure above, ABCD is a rectangle. If area of Δ AEB is 8, what is the area of Δ ACD?

(A) 8 (B) 12 (C) 16 (D) 20 (E) 24



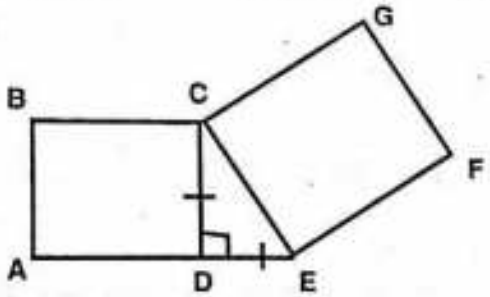
23. In rectangle KNML above, MP $= \frac{1}{3}$ MN. Area of Δ LMP = 8. Area of rectangle KNML=?

(A) 24 (B) 32 (C) 48 (D) 72 (E) 96



24. What is the perimeter of the trapezoid shown above?

(A) 21 (B) 24 (C) $24+\sqrt{2}$ (D) $18+6\sqrt{2}$ (E) $24\sqrt{2}$



25. In the figure above, ABCD and CEFG are squares and CD = DE. If the area of CEFG is 36, what is the area of ABCD?

(A) 6 (B) $6\sqrt{2}$ (C) 9 (D) 18 (E) 24

Answer keys

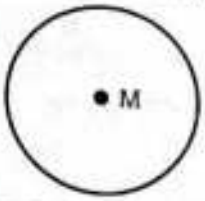
1. D	6. B	11. D	16. D	21. C
2. C	7. C	12. E	17. A	22. C
3. B	8. D	13. C	18. D	23. C
4. D	9. B	14. D	19. D	24. D
5. C	10. E	15. B	20. E	25. D

❖ CHAPTER OUTLINE

- ✓ Circle
- ✓ Clock Related Problems
- ✓ Rotation of Wheel

Basic Concept on Circle

i) Center বা mid-point অনুসারে circle-এর নামকরণ করা হয় ঃ



Circle M

ii) Circumference (C) হচ্ছে circle-এর একটি বৃত্তাকার রেখার দৈর্ঘ্য- অর্থাৎ circle এর perimeter হচ্ছে circumference বা পরিধি।

iii) Radius হচ্ছে Center ও Circumference-এর যেকোন বিন্দুর সংযোগকারী রেখা। (radius→plural: radii)

iv) Circumference এর দুটি বিন্দু যোগ করলে তা কেন্দ্র গামী হলে তাকে diameter বা ব্যাস বলে। diameter এর length দুটি radius এর যোগফলের সমান।

v) π (পাই) হচ্ছে একটি constant. যে কোন circle-এর circumference এবং diameter এর ratio হচ্ছে π (constant)। এটি আসলে একটি irrational number। তবে এর আসন্ন মান 3.1416 বা $^{22}/_{7}$

vi) r (radius), d (diameter), c (circumference), A (Area) এর যে কোন একটি জানা থাকলে সহজেই অপর তিনটি নির্ণয় করা যায়।

কোন Circle এর radius r হলে, d = 2r

$$c = 2\pi r = \pi d$$

$$A = \pi r^2 = \frac{\pi d^2}{4}$$

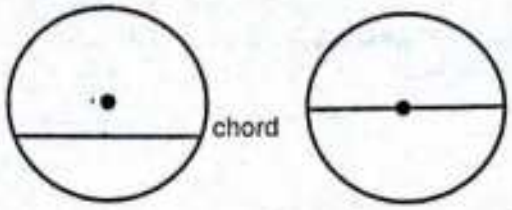
Example : r = 2 m হলে

$d = 2 \times 2 = 4$ m

$c = 4\pi$ m

$A = 4\pi$ m^2

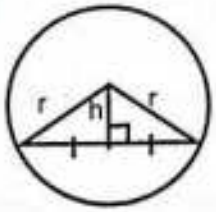
vii) Chord বা জ্যা circumference এর যে কোন দুটি বিন্দু সংযোগকারী রেখা



N. B. a. *Diameter circle-এর বৃহত্তম chord*

b. center এবং chord-এর মধ্যবিন্দু সংযোগকারী রেখা chord এর উপর Perpendicular.

c. Center থেকে chord-এর উপর লম্ব, chord কে সমদ্বিখন্ডিত করে।



d. সমান সমান chord কেন্দ্র থেকে সমান দূরবর্তী।

e. Center থেকে সমদূরবর্তী chord পরস্পর সমান।

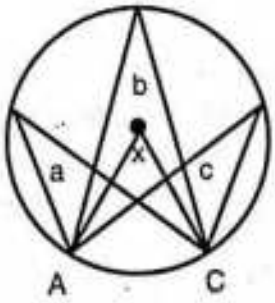
f. বৃহত্তর chord, center এর নিকটতর।

g. center এর নিকটতর chord বৃহত্তর।

viii) Arc বা চাপ হচ্ছে Circumference এর অংশ।

ix) *Central and Inscribed Angles :*

Arc center-এ Central angle এবং circumference এর উপরে inscribed angle ধারণ করে।



x = Central angle

a, b, c = Inscribed angle

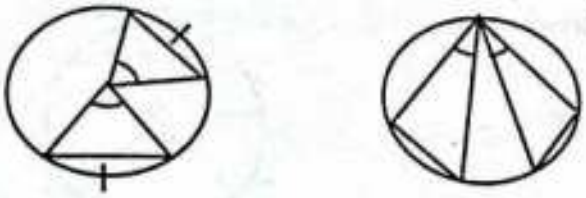
এখানে,

a) $a = b = c$ অর্থাৎ একই চাপ AC-এর উপরে সব inscribed angle সমান।

b) $a = b = c = \frac{x}{2}$ অর্থাৎ একই চাপ AC-এর উপরে inscribed angle, central angle-এর অর্ধেক।

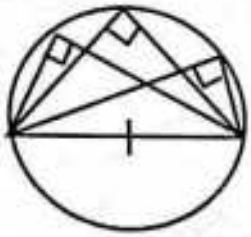
c) সমান সমান chord সমান সমান arc ছিন্ন করে।

d) Same circle-এ সমান সমান chord বা arc এর central এবং inscribed angle গুলো সমান।

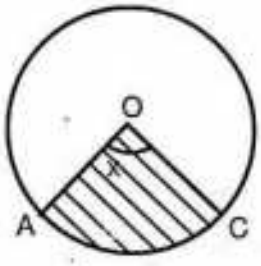


e) circle এর degree measure 360°

f) Semi-circle এ অর্থাৎ diameter এর উপর থেকে circumference-এ যে কোন angle 90°



Area of Pie : Central angle এর মান অনুযায়ী Pie এর area নির্ণয় করা যায়।

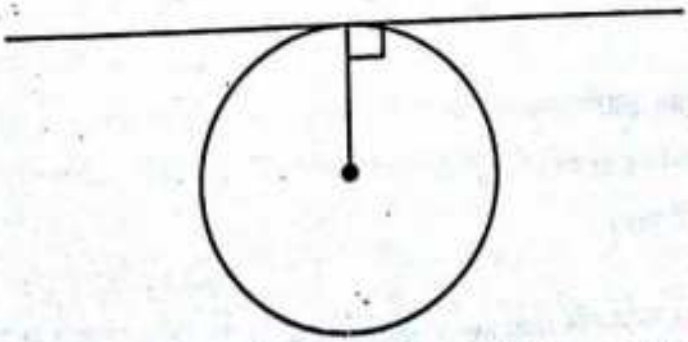


$\angle AOC = x^0$ হলে, area (shaded) $= \pi r^2 \times \frac{x^\circ}{360^0}$

Example : $r = 3m$ এবং $\angle AOC = 60^0$ হলে,

Shaded area $= \pi \times (3m)^2 \times \frac{60}{360} = \frac{3}{2}\pi\ m^2$

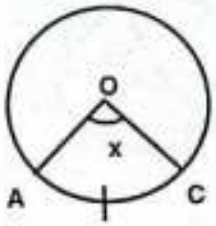
Tangent: Tangent circle এর একটি external line যা circumference কে একটি মাত্র point এ touch করে।



Center এবং point of tangency সংযোগ করলে তা tangent এর উপর perpendicular হবে।

Length of an Arc:

Central angle এর মান অনুযায়ী arc এর length নির্ণয় করা হয়।



$\angle AOC = x^0$ হলে, length of AC = $2\pi r \times \frac{x}{360^0}$

Example: r = 3 m এবং $\angle AOC = 60^0$ হলে,

$AC = 2 \times \pi \times 3 \times \frac{60^0}{360^0}$ m.

$= \pi$ m.

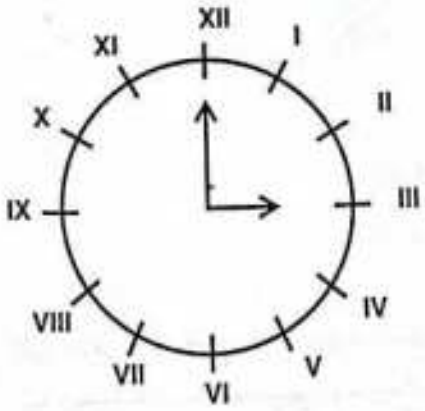
Segment and Pie:

Segment এবং Pie হলো Circle এর surface-এর part.

Segment

Pie

Clock Related Problems:



1. Clock এর Center এর চারিদিকে total angle 360^0
2. Minute এর hand 60 m অর্থাৎ 360^0 ঘুরলে 1 hour হয়।
3. 1 hour বা 60 minutes-এ hour hand 30^0 ঘুরে।
4. x minute-এ hour hand $\frac{x}{2}$ degree ঘুরে। অর্থাৎ প্রতি minute-এ hour এর hand $\frac{1^\circ}{2}$ ঘুরে।
5. প্রতি minute-এ minute-এর hand 6^0 ঘুরে।

Example: What is the degree measure of the acute angle between the hands of minute and hour at 7:45

Solution: 7:00 থেকে minute এর hand 45 minute ঘুরলে hour এর hand স্থির থাকলে angle টি হতো 60^0 (vii থেকে ix এর মাঝে $30^0 + 30^0 = 60^0$)

কিন্তু 45 minute এ hour hand $\frac{45^0}{2}$ ঘুরবে

$\therefore$ Acute angle হবে $= 60^0 - 22.5^0$

$= 37.5^0$

Rotation of Wheel: Wheel এক rotation-এ তার circumference এর সমপরিমান length অতিক্রম করে। Circumference C হলে এবং unit time-এ wheel টি N বার rotate করলে,

$$\text{Distance} = CN = 2\pi r N = \pi d N$$

Example: At a speed of 22 revolutions per minute, how long will it take a wheel with radius 10", rolling on its edge, to travel 10 feet?

Solution: $C = 2 \times 10'' \times \frac{22}{7}$

$$\text{Speed per minute} = CN = 2 \times 10'' \times \frac{22}{7} \times 22$$

Again, 10 feet = 120"

$$\therefore \text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{120}{2\times10\times\frac{22}{7}\times22} \text{ minutes} = \frac{120\times60}{2\times10\times\frac{22}{7}\times22} \text{ seconds} = 5.2 \text{ seconds}$$

Two Wheels: r, d ও c (radius, diameter, circumference) বিশিষ্ট একটি wheel n rotation-এ যতটুকু distance অতিক্রম করে R, D ও C (Radius, Diameter, Circumference) বিশিষ্ট আরেকটি wheel N rotation-এ ততটুকু distance অতিক্রম করলে,

$$r\,n = RN \quad \text{(i)}$$

$$d\,n = DN \quad \text{(ii)}$$

$$c\,n = CN \quad \text{(iii)}$$

Equation গুলোর যেকোন টিতে চারটি value এর তিনটির মান জানা থাকলে 4th value টি সহজেই নির্ণয় করা যায়।

Example: Two wheels have radius of 10m and 15m, respectively. If they roll along at the same linear speed until the small wheel revolved 30 times, how many times has the larger wheel revolved?

Solution: $r\,n = RN$

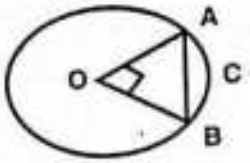
$\therefore 10 \times 30 = 15N$

$\therefore N = 20$

Review Exercise - 3

1. The ratio of the area of a circle to the radius of the circle is

(A) πr (B) 2π (C) π^2 (D) $2\pi^2$ (E) Cannot be determined



2. In the circle above, O is the center, OA = 6. AO ⊥ BO. The area of segment ACB is:

(A) 2π (B) $\pi - 2$ (C) $6\pi - 9\sqrt{3}$ (D) $9\pi - 18$ (E) $36\pi - 9\sqrt{3}$

3. A circular disc of area 0.49π sq. meters rolls down an incline of 0.88 km length. What is the number of revolutions it makes during this journey?

(A) 150 (B) 200 (C) 250 (D) 280 (E) 300

4. What is the area of a semicircle with a diameter of 16 inches?

(A) 32π sq. feet (B) 64π sq. feet (C) 128π sq. feet

(D) 256π sq. feet (E) 512π sq. feet

5. If d is the diameter of a circle, then πd^2 represents:

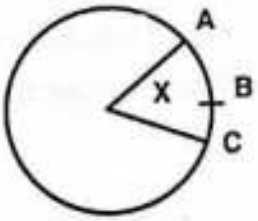
(A) area of the circle

(B) half the area of the circle

(C) twice the area of the circle

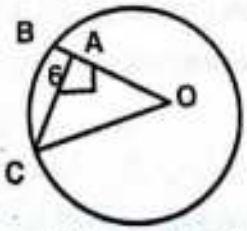
(D) One-fourth the area of the circle

(E) four times the area of the circle.



6. In the figure above, the ratio of the circumference of the circle to the length of arc ABC is 8:1. What is the value of angle x?

(A) 30^0 (B) 45^0 (C) 60^0 (D) 75^0 (E) 90^0

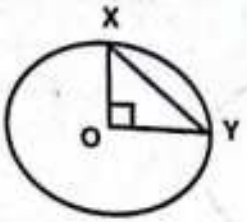


7. In the figure above, if the area of the circle with center O is 100π and CA has a length of 6, what is the length of AB?

(A) 2 (B) 3 (C) 4 (D) 5 (E) 6

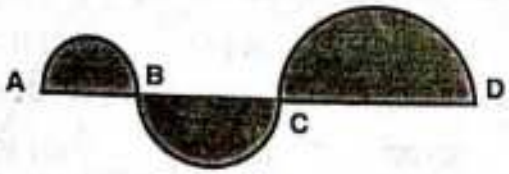
8. If the minute hand of a clock moves 45 degrees, how many minutes of time have passed?

(A) 6 (B) 7.5 (C) 15 (D) 5 (E) 6



9. In the figure above, O is the center of the circle. If the area of triangle XOY is 25, what is the area of the circle?

(A) 25π (B) $25\pi\sqrt{2}$ (C) 50π (D) $50\pi\sqrt{3}$ (E) 625π

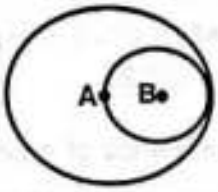


10. Each of the three shaded regions above is a semicircle. If AB=4, BC=2AB and CD=2BC, then the area of the entire figure is:

(A) 28π (B) 42π (C) 84π (D) 96π (E) 168π

11. If the diameter of a circle increases by 50 percent; by what percent will the area of the circle increase?

(A) 25% (B) 50% (C) 100% (D) 125% (E) 225%

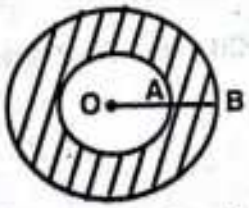


12. In the diagram above, if the circle with center A has an area of 72π, what is the area of the circle with center B which touches the center and the circumference of circle A?

(A) 18π (B) 24π (C) 30π (D) 36π (E) 48π

13. A circular garden twenty feet in diameter is surrounded by a path three feet wide. What is the area of the path?

(A) 9π sq. feet (B) 51π sq. feet (C) 60π sq. feet
(D) 69π sq. feet (E) 90π sq. feet

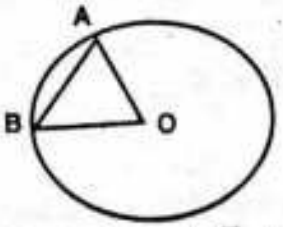


14. In circle O, OB = 6 and AB = 2. The ratio of the shaded portion to the small circle is:

(A) 1: 9 (B) 1: 3 (C) 5: 4 (D) 3: 5 (E) 3: 4

15. If a wheel rotates 12 times each minute, how many degrees does it rotate in 5 seconds?

(A) 72° (B) 40° (C) 360° (D) 450° (E) 540°



16. AB = radius OA; area of triangle AOB = $4\sqrt{3}$. Area of circle O =?

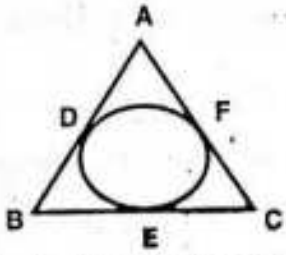
(A) 4π (B) 8π (C) 16π (D) $24\sqrt{3}$ (E) $24\pi\sqrt{3}$

17. What is the acute angle between the hands of hour and minute at 6:35?

(A) 5° (B) $12\frac{1^0}{2}$ (C) 15° (D) $17\frac{1^0}{2}$ (E) 30°

18. What is the acute angle between the hands of hour and minute at 6:25?

(A) $12\frac{1^0}{2}$ (B) 15° (C) 30° (D) $42\frac{1^0}{2}$ (E) 45°



19. Circle O is inscribed in triangle ABC. BD=4, AF=3, EC=5. The perimeter of Δ ABC is:

(A) 12 (B) 15 (C) 17 (D) 24 (E) Cannot be determined

20. If an arc with length of 12π is $\frac{3}{4}$ the circumference of a circle, what is the shortest distance between the end points of the arc?

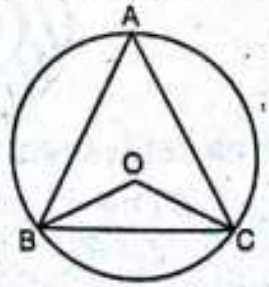
(A) 4 (B) $4\sqrt{2}$ (C) 8 (D) $8\sqrt{2}$ (E) 16

21. Two wheels have diameters of 12 inches and 18 inches, respectively. Both wheels roll along parallel straight lines at the same linear speed until the large wheel has revolved 72 times. At this point, how many times has the small wheel revolved?

(A) 32 (B) 48 (C) 72 (D) 108 (E) 162

22. In the figure, O is the center of the circle and ∠OCB = 35°. What is the value of ∠BAC?

(A) 110°
(B) 65°
(C) 60°
(D) 55°
(E) None of these

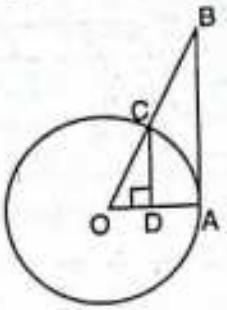


23. In the diagram pictured below, O is the center of the circle. BA is tangent to the circle at point A, and CD is Perpendicular to OA at D. Which of the following statements is (are) true?

I. ΔODC and ΔOBA are similar.

II. OA: DC = OB: AB

III. AB is twice as long as CD.



(A) I only

(B) III only

(C) I and II only

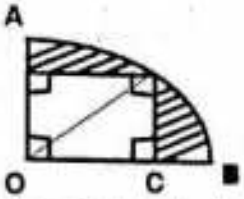
(D) I and III only

(E) None of the above

24. If the area of a semicircle is 8π square inches, what is the perimeter of the semicircle?

(A) 8π inches (B) $4\sqrt{2}\,\pi$ inches (C) $8 + 4\pi$ inches

(D) $8 + 8\pi$ inches (E) None of these



25. In the figure above, a square is inscribed within a quarter-circle with center O. The length of arc AB is 5π & the length of CB is 4. What is the sum of the area of the shaded region?

(A) $25\pi - 60$ (B) $25\pi - 48$ (C) $25\pi - 36$ (D) $100\pi - 48$ (E) $100\pi - 36$

Answer keys

1. E	6. B	11. D	16. C	21. D
2. D	7. A	12. A	17. B	22. D
3. B	8. B	13. D	18. D	23. C
4. A	9. C	14. C	19. D	24. C
5. E	10. B	15. C	20. D	25. C

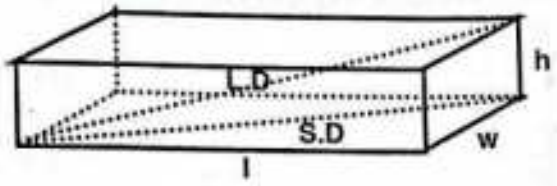
❖ **CHAPTER OUTILINE**

✓ **Solid Geometry**

- **Rectangular Solid**
- **Cube**
- **Sphere**
- **Cylinder**
- **Cone**

Solid বা ঘন বস্তুর volume বা আয়তন আছে। এখানে কিছু solid নিয়ে সংক্ষেপে আলোচনা করা হলো।

Rectangular Solid: Rectangular Solid বা আয়াতাকার ঘন বস্তুর আকার box এর মতো, এই box এর প্রত্যেকটি surface rectangular. For example: brick.



Rectangular solid এর ৮ টি vertex বা শীর্ষবিন্দু আছে। এর total ১২ টি edge বা প্রান্ত আছে।

Total length of the edges = 4 (l + w + h)

Rectangular solid এর মোট উপর পৃষ্ঠের ক্ষেত্রফল বা total surface area,

TSA = 2 (lw + lh + wh) [TSA = Total Surface Area]

Volume = base × height = length × width × height

= l x w x h

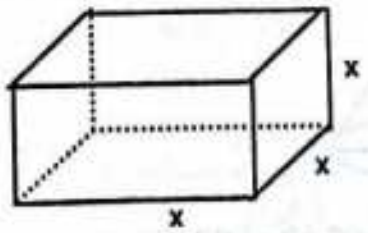
Short diagonal 3 টির পরিমাপ $\sqrt{l^2+w^2}$, $\sqrt{l^2+h^2}$ এবং $\sqrt{w^2+h^2}$

Longest diagonal (দূরবর্তী vertex এর distance) = $\sqrt{l^2+w^2+h^2}$

N. B. Volume হচ্ছে একটি ঘন বস্তু কি পরিমান স্থান জুড়ে অবস্থান করে বা কি পরিমান বস্তু ধারণ করে তার পরিমাপ।

Cube: Cube বা ঘনক অনেকটা rectangular solid এর মতোই। তবে এর প্রত্যেকটি প্রান্তই সমান।

অর্থাৎ, l = w = h



Cube এর একটি প্রান্ত x হলে,

Total length of the edges = 12x

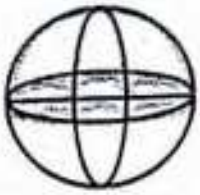
TSA = $6x^2$ [TSA = Total Surface Area]

Volume = x^3

Short diagonal = $x\sqrt{2}$

Longest diagonal = $x\sqrt{3}$

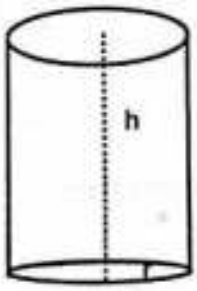
Sphere: Sphere এর example হচ্ছে football. Sphere বা গোলকের radius r হলে-



Volume = $\frac{4}{3}\pi r^3$

T. S. A. = $4\pi r^2$ [TSA = Total Surface Area]

Cylinder: Cylinder এর example হচ্ছে যেকোন Can (container). Cylinder বা বেলন এর আকার নিম্নরূপ ঃ



Cylinder এর height h এবং circular surface এর radius r হলে-

T.S.A. = $2\pi rh + 2\pi r^2$ [TSA = Total Surface Area]

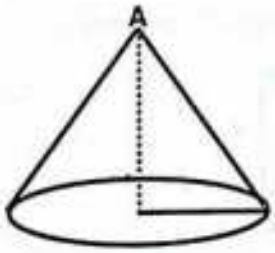
= $2\pi r (h + r)$

Volume = base x height

= $\pi r^2 \times h$

= $\pi r^2 h$

Cone: Cone এর example হচ্ছে Funnel. Cone বা কোনক এর আকার নিম্নরূপ ঃ



এখানে OB = radius = r, AO = height = h এবং AB = l হলে

Volume = $\frac{1}{3}\pi r^2 h$

T. S. A = $\pi r (r + l)$ [TSA = Total Surface Area]

N.B. Solid এর volume এর unit বা একক হবে cubic meter বা cubic inches বা cubit feet (cft) বা cubic centimeter (cc) etc.

Review Exercise - 4

1. What is the volume of a cube with a surface area of 96?
(A) 8 (B) 16 (C) 27 (D) 48 (E) 64

2. A cylinder has a volume of 72π cubic inches and height of 8 inches. If the height is increased by 4 inches, what will be the new volume, in cubic inches?
(A) 84π (B) 96π (C) 108π (D) 120π (E) 144π

3. A cube and a rectangular solid are equal in volume. If the lengths of the edges of the rectangular solid are 4, 8 and 16, what is the length of an edge of the cube?
(A) 8 (B) 10 (C) 12 (D) 16 (E) $16\sqrt{2}$

4. What is the volume of a cylinder with diameter 6 and height 6?
(A) 36π (B) 54π (C) 54 (D) 16 (E) 216π

5. If the length of an edge in a cube is $3\sqrt{3}$, what is the length of the longest diagonal?
(A) $3\sqrt{6}$ (B) 9 (C) $9\sqrt{3}$ (D) 2 (E) $2\sqrt{3}$

6. If the edges of a cube add up to 4 feet in length, what is the volume of the cube?
(A) 64 cubic inches (B) 125 cubic inches (C) 216 cubic inches
(D) 16 cubic feet (E) 64 cubic feet

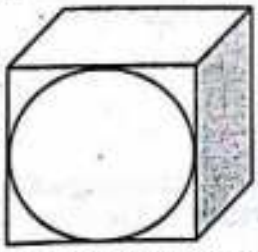
7. The volume of a sphere is equal to the volume of a cylinder. If the radius of the sphere is 4 meters and the radius of the cylinder is 8 meters, what is the height of the cylinder?
(A) 4 meters (B) $\frac{4}{3}$ meters (C) 8 meters (D) $\frac{16}{3}$ meters (E) 16 meters

8. If the volume of a cube is 216 c.c., find the total surface area of the cube.
(A) 36 sq. c.m (B) 54 sq. c.m (C) 216 sq. c.m
(D) 36 c.c (E) 216 c.c.

9. If the radius of the base of a cylinder is tripled, and height is divided by three, what is the ratio of the volume of the new cylinder to that of the original cylinder?
(A) 1: 9 (B) 1: 3 (C) 1: 1 (D) 3: 1 (E) 9: 1

10. A rectangular block with a volume of 250 cubic inches was sliced into 2 cubes of equal volume. How much greater, in square inches, is the combined surface area of the 2 cubes than the original surface area of the rectangular block?
(A) 5 sq. inches (B) 10 sq. inches (C) 25 sq. inches
(D) 50 sq. inches (E) 125 sq. inches

11. If the height of a cylinder is twice its radius and the volume of the cylinder is $\frac{44}{7}$ cubic meter, what is the radius of the cylinder in meter?
(A) 1 (B) 3 (C) 5 (D) 9 (E) Cannot be determined



12. In the figure shown above, a sphere is inscribed inside a cube. If the radius of the sphere is 2.5 cm, what is the total surface area of the cube?
(A) 25 cm^2 (B) 50 cm^2 (C) 100 cm^2 (D) 150 cm^2 (E) Cannot be determined

13. A rectangular solid has a length of 20 feet. Its width is one-half of its length and the height is the average of its length and width. What is the volume of the rectangular solid in cubic feet?

(A) 1000 (B) 1500 (C) 2000 (D) 3000 (E) 4500

14. What is the volume of a cylinder whose radius is 4 inches, and whose height is 10 inches?

(A) 125.6 cubic inches (B) 134.4 cubic inches (C) 144.0 cubic inches
(D) 201.2 cubic inches (E) 502.4 cubic inches

15. If one gallon of water equals 231 cubic inches, approximately how much water will fill a cylindrical vase 7 inches in diameter, and 10 inches high?

(A) 1.7 gallons (B) 2.1 gallons (C) 3.3 gallons (D) 5.3 gallons (E) 6.7 gallons

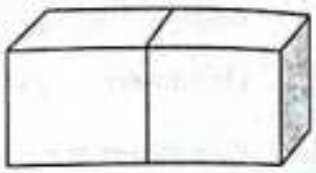
16. What is the length of the line segment connecting the two most distant vertices of a 1 inch cube?

(A) 1 inch (B) $\sqrt{2}$ inches (C) $\sqrt{3}$ inches (D) $\sqrt{5}$ inches (E) $\sqrt{6}$ inches

17. The volume of a sphere is twice the volume of a cylinder. If the volume of the cylinder is 18π cubic cm, what is the radius of the sphere?

(A) 3 cm (B) 6 cm (C) 9 cm (D) 18 cm (E) 27 cm

18. The picture beside is a rectangular solid whose volume is 250 cubic feet. However, if it is cut along CD, it makes two cubes of equal volume. What is the length of AB?

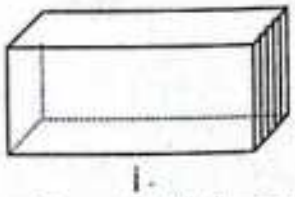


(A) 5 feet (B) 8 feet (C) 10 feet
(D) 25 feet (E) Cannot be determined

19. There are two containers: the first is a rectangular solid measuring 3 inches by 4 inches by 10 inches; the second is a cylinder having a base with a radius of 2 inches, and a height of 10 inches. If the first container is filled with water and then this water is poured into the second container, which of the following occurs:

(A) There is room for more water in the second container.
(B) The second container is completely filled, without overflowing.
(C) The second container overflows by less than 1 cubic inch.
(D) The second container overflows by less than 2 but not less than 1 cubic inches.
(E) The second container overflows by 2 or more cubic inches.

20. In the figure beside, the area of the base of the rectangular box is 21 and the area of the shaded face is 30. If each of the dimensions j, k, l is an integer greater than 1, what is the volume of the rectangular box?



(A) 630 (B) 210 (C) 420
(D) $\frac{70}{3}$ (E) $210\sqrt{3}$

21. If one cubic foot of water equals 7.5 gallons, how long will it take for a faucet which flows at the rate of 8 gal/ min to fill a cylindrical vase with radius of 2 feet and height of 7 feet?

(A) 4 minutes (B) 5 minutes (C) 9 minutes (D) 11 minutes (E) None of these

22. A cubical block of metal weighs 3 pounds. How much weight in ounce will another cube of the same metal have if its sides are twice as long of that one?
(A) 12 (B) 18 (C) 24 (D) 32 (E) 384

23. A cylinder is filled to four-fifths of its volume. It is then tilted so that the level of water coincides with one edge of its bottom and the top edge of the opposite side. In the process, 30 cc of water is spilled. What is the volume of the cylinder?
(A) 75 cc (B) 96 cc (C) 100 cc (D) 120 cc (E) Cannot be determined

24. If the radius of a sphere is increased by 50%, by what percent will the volume of the sphere be increased?
(A) 50% (B) 125% (C) 150% (D) 237.5% (E) 337.5%

25. Which of the followings has the smallest volume?
(A) A sphere with a radius of 3 cm
(B) A cylinder with a radius of 2 cm and a height of 10 cm
(C) A cube with a side of 5 cm
(D) A rectangular solid with a dimension of 13 cm x 5 cm x 2 cm
(E) All of them have the same volume

Answer keys

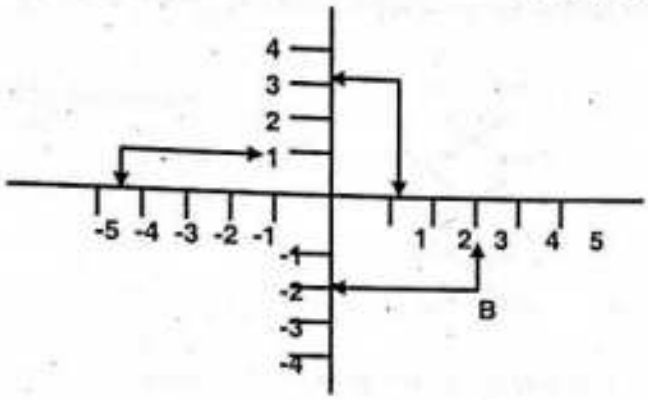
1. E	6. A	11. A	16. C	21. E
2. C	7. B	12. D	17. A	22. E
3. A	8. C	13. D	18. C	23. C
4. B	9. D	14. E	19. A	24. D
5. B	10. D	15. A	20. B	25. A

❖ CHAPTER OUTILINE

✓ Coordinate Geometry

IBA Admission Test-এ Coordinate geometry related problem কম আসে। এই chapter-এ সংক্ষেপে coordinate geometric concept এবং কিছু formula আলোচনা করা হলো।

Cartesian Grid: Cartesian grid basically cross আকারে দুটি perpendicular axis (number line)। এখানে horizontal line টিকে x-axis এবং vertical line টিকে y-axis বলা হয়। x-axis এবং y-axis এর point of intersection কে Origin বলে। x-axis ও y-axis এর cross একটি plane কে চারটি ভাগে বিভক্ত করে এবং এদেরকে Quadrant বলে।



একটি plane-এ কোন point এর অবস্থান এই grid এর সাহায্যে নির্ণয় করা যায়। x-axis ও y-axis এর উপর point টি থেকে লম্ব টেনে x-axis এর উপরের বিন্দুটি x এর মান ও y-axis এর উপরের বিন্দুটি y এর মান নিয়ে বিন্দুর অবস্থান (x,y) নির্ণয় করা হয়। x-axis এবং y-axis এর intersection point কে (0, 0) point ধরা হয়। উপরের grid এর মতো চারটি quadrant-এ x ও y এর মানের sign নির্ধারিত হয়। Grid টিতে B point এর x coordinate এর মান 3 এবং y coordinate এর মান –2। অতএব B এর coordinate points (3, -2).

N.B. x-axis এর উপর কোন বিন্দুর y coordinate এর মান 0 এবং y-axis এর উপর কোন বিন্দুর x coordinate এর মান 0.

Mid Point: দুটি coordinate point A (x, y) এবং B (x', y') হলে, তাদের midpoint, C এর coordinates হবে ঃ

Coordinates of Midpoint = $\left(\frac{x+x'}{2}, \frac{y+y'}{2}\right)$

Example: A (2,4) এবং B (6,-2) হলে তাদের midpoint হবে $\left(\frac{2+6}{2}, \frac{4+(-2)}{2}\right)$ বা (4, 1)

Distance: দুটি coordinate point A (x, y) এবং B (x', y') হলে তাদের distance হবে ঃ

Distance $= \sqrt{(x-x')^2+(y-y')^2}$

Example: দুটি coordinate point A (8, 17) এবং B (0, 2) হলে, point দুটির distance-

$$\text{Distance} = \sqrt{(8-0)^2+(17-2)^2} = \sqrt{8^2+15^2} = 17$$

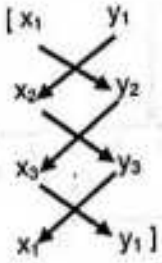
Slope of a line: Slope of a line segment having two coordinate points A (x_1, y_1) and B (x_2, y_2) is:

$$\text{Slope, } m = \frac{y_2 - y_1}{x_2 - x_1}$$

Example: দুটি coordinate point A (2, 4) এবং B (5, -2) হলে তাদের slope হবে = $\left(\frac{-2-4}{5-2}\right) = -2$

Area of a Triangle: Triangle এর তিনটি vertex point A (x_1, y_1), B (x_2, y_2) এবং C (x_3, y_3) হলে,

$$\text{Area of } \Delta ABC = \frac{1}{2}$$

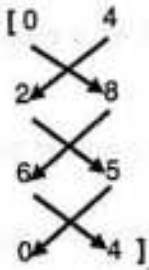


$$= \frac{1}{2}\left[x_1 y_2 + x_2 y_3 + x_3 y_1 - y_1 x_2 - y_2 x_3 - y_3 x_1\right]$$

N. B. Point গুলোর sequence এর কারণে result-এ negative sign আসলে তা ignore করতে হবে।

Example: একটি triangle ABC এর তিনটি vertex points A (0,4), B (2,8) এবং C (6, 5) হলে

$$\text{Area of } \Delta ABC = \frac{1}{2}$$



$$= \frac{1}{2}(0 + 10 + 24 - 8 - 48 - 0)$$

$$= \frac{1}{2}(-22)$$

$$= -11$$

কিন্তু area negative হতে পারে না। অতএব এক্ষেত্রে area হবে –11 এর absolute value বা 11.

N.B. The area of any quadrilateral can be determined the same way as above from any given four vertices.

Review Exercise - 5

1. A line segment AB is drawn from point (2, 3) and point (4, 7). What are the coordinates of the midpoint?
(A) (5, 3) (B) (3, 5) (C) (6, 10) (D) (2, 4) (E) (4, 2)

2. What is the distance from point A (3, 4) to point B (-3, -4)?
(A) 2 (B) 5 (C) 10 (D) 13 (E) 14

3. Point P (4, 2) is the midpoint of line OPC, where O is at origin (0, 0). The coordinates of C are
(A) (2, 3) (B) (4, 8) (C) (4, 4) (D) (8, 2) (E) (8, 4)

4. Point P (0, -4) is the midpoint of line AB, where the coordinates of point A are (-2, -5). The coordinates of point B are
(A) (-4, -10) (B) (2, -5) (C) (2, 5) (D) (2, -3) (E) (2, 3)

5. The vertices of triangle ABC are (-1, 2), (-1, 1) and (-3, 2). Triangle ABC is:
(A) obtuse (B) isosceles (C) right
(D) equilateral (E) Cannot be determined

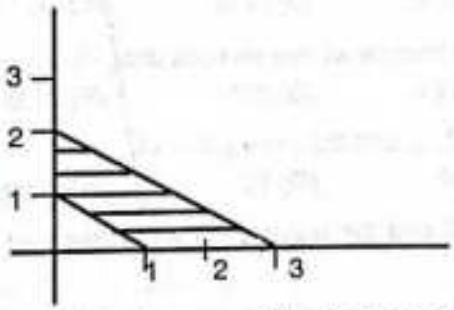
6. Triangle ABC has the following vertices: A (1, 1), B (9, 4) and C (1, 7). Which of the following statements is true?
(A) AB = BC (B) AB = AC (C) AB > BC
(D) AB < AC (E) AC = BC

7. The area of a circle whose center is at (0, 0) is 9π. The circle passes through all of the following points except:
(A) (-3, 0) (B) (3, 0) (C) (0, 3) (D) (0, -3) (E) (3, 3)

8. AB is a diameter of a circle whose center is O. The coordinates of point A are (-2, 0) and point B are (2, 0). The circle passes through a point whose coordinates are:
(A) (-2, -2) (B) (-2, 2) (C) (0, 4) (D) (0, -2) (E) (2, 2)

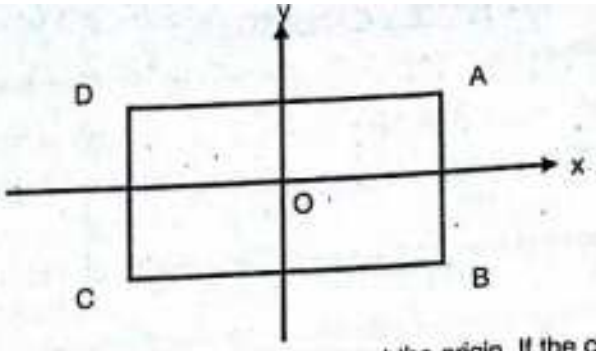
9. The coordinates of a point equally distant from A (4, -2) and B (4, 6) and which is on the y-axis are:
(A) (0, 2) (B) (0, 4) (C) (1, 8) (D) (2, 0) (E) (2, 2)

10. What is the area of a triangle with vertices are at (5, 3), (11, 3) and (8, 8)?
(A) 7 (B) 15 (C) 24 (D) 30 (E) 64



11. In the figure above, what is the area of the shaded region?
(A) 1.5 (B) 2 (C) 2.5 (D) 3 (E) 3.5

12. Point A has coordinates (1, 2) and point B has coordinates (9, b). If the distance between points A and B is 10, find the value of b.
(A) 4 (B) 6 (C) 7 (D) 8 (E) 10

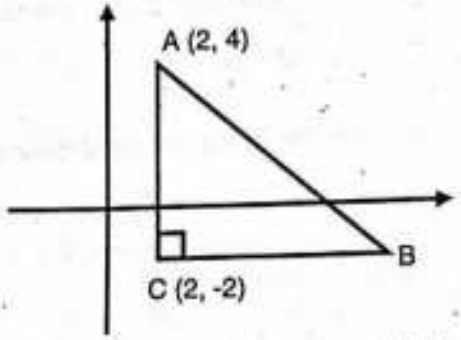


13. In the figure above, ABCD is a square with center at the origin. If the coordinates of vertex A are (4, 4), what are the coordinates of vertex C?

(A) $(-4\sqrt{2}, -4\sqrt{2})$ (B) $(-4\sqrt{2}, -4)$ (C) (-4, -4) (D) (-4, 4) (E) (4, -4)

14. What is the area of the triangle having co-ordinates of (0, 2), (4, 7) and (3, 6)?

(A) 3 (B) 7.5 (C) 22 (D) 0.5 (E) 1.5



15. In the rectangular coordinate system above, if the area of right triangle ABC is 24, what are the coordinates of point B?

(A) (10, -2) (B) (10, 2) (C) (2, 6) (D) (8, -2) (E) Cannot be determined

16. If the coordinates of point P are (0, 8), and the coordinates of point Q are (4, 2), which of the following points represents the midpoint of PQ?

(A) (0, 2) (B) (2, 4) (C) (2, 5) (D) (4, 8) (E) (4, 10)

17. What is the area, in square units, of a triangle whose vertices are (–5, 1), (–5, 4), (2, 4)?

(A) 10.5 (B) 12.5 (C) 15.0 (D) 20.0 (E) 21.0

18. Find the distance between the point (7, 1) and the point (- 5, - 4).

(A) $\sqrt{13}$ (B) 5 (C) 12 (D) 13 (E) None of these

19. Line ℓ passes through the point (3, 8) and the point (1, - 4). Which of the following is the slope of line ℓ?

(A) $\frac{1}{6}$ (B) 3 (C) 6 (D) - 6 (E) None of these

20. In the figure below, the slope of line l is 2. What is the value of B?

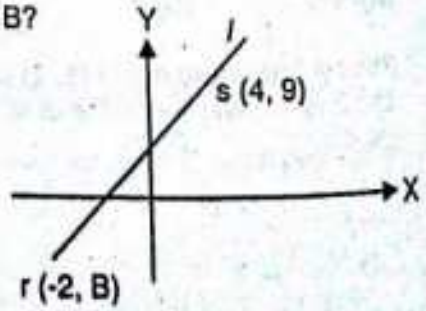
(A) –2

(B) 1

(C) 2

(D) - 3

(E) None of these



21. If a rectangle has corners at (–2, 2), (–2, 6), and (–4, 6), what is the location of the fourth corner?

(A) (0, 0) (B) (2, 4) (C) (–2, –2) (D) (4, 2) (E) (–4, 2)

22. What is the area of a quadrilateral with vertices at (5, 3), (6, - 4), (- 3, - 2), (- 4, 7)?

(A) 45 (B) 58 (C) 69 (D) 138 (E) None of these

23. Find the distance between the point (- 7, 4) and the point (1, - 2).

(A) 8 (B) 10 (C) 12 (D) 15 (E) None of these

24. Line ℓ passes through the origin and the point (3, -5). Which of the following is the slope of line ℓ?

(A) $\frac{4}{5}$ (B) $\frac{5}{3}$ (C) $\frac{3}{4}$ (D) $-\frac{3}{5}$ (E) $-\frac{5}{3}$

25. A certain line segment in the rectangular coordinate plane has endpoints A and B and is perpendicular to the y-axis. If point A is located at (–2, –3), which of the following could be the location of point B?

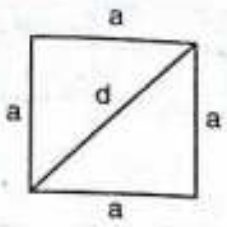
(A) (–2, 3) (B) (–2, –6) (C) (–6, –2) (D) (2, 3) (E) (2, –3)

Answer keys

1. B	6. A	11. C	16. C	21. E
2. C	7. E	12. D	17. A	22. C
3. E	8. D	13. C	18. D	23. B
4. D	9. A	14. D	19. C	24. E
5. C	10. B	15. A	20. D	25. E

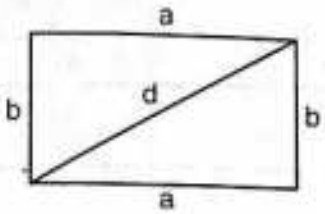
SOME COMMON GEOMETRIC FIGURES WITH NECESSARY FORMULA

Square



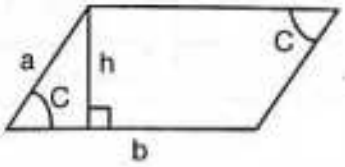
Quantity	Formula
Area	$A = a^2$
	$A = \frac{1}{2}d^2$
Perimeter	P = 4a
Diagonal	$d = a\sqrt{2}$

Rectangle



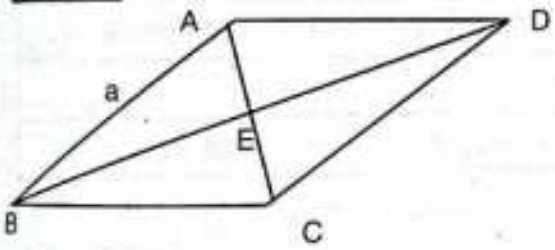
Quantity	Formula
Area	A = ab
Perimeter	P = 2(a + b)
Diagonal	$d = \sqrt{a^2 + b^2}$

Parallelogram



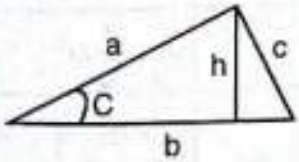
Quantity	Formula
Area	A = bh
Perimeter	P = 2(a + b)

Rhombus



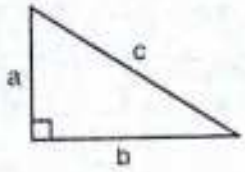
Quantity	Formula
Area	$A = \frac{1}{2} d_1 \times d_2$ $= \frac{1}{2} \times \text{diagonal}_1 \times \text{diagonal}_2$
Perimeter	P = 4a

Triangle



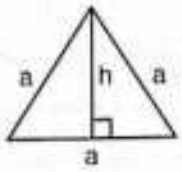
Quantity	Formula
Area	$A = \frac{1}{2} b \times h$
Perimeter	a + b + c

Right Triangle



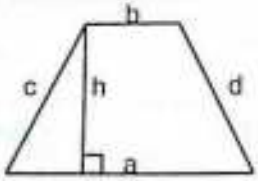
Quantity	Formula
Area	$A = \frac{1}{2}ab$
Perimeter	$a + b + c$
Hypotenuse	$c = \sqrt{a^2 + b^2}$

Equilateral Triangle



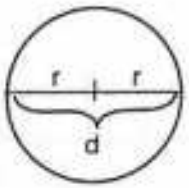
Quantity	Formula
Area	$A = \frac{\sqrt{3}}{4}a^2$
Perimeter	$P = 3a$
Height	$h = \frac{\sqrt{3}}{2}a$

Trapezoid



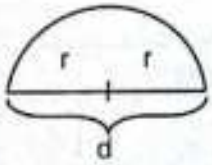
Quantity	Formula
Area	$A = \frac{1}{2}h(a+b)$
Perimeter	$P = a + b + c + d$

Circle



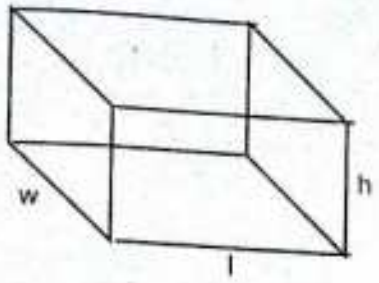
Quantity	Formula
Area	$A = \pi r^2$
Circumference	$C = \pi d = 2\pi r$

Semi-circle



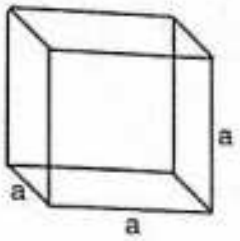
Quantity	Formula
Area	$A = \frac{1}{2}\pi r^2$
Perimeter	$P = d(\frac{1}{2}\pi + 1)$

Rectangular Solid



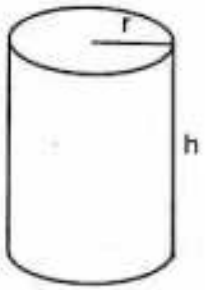
Quantity	Formula
Volume	V = lwh
	V = Bh
Surface Area	SA = 2(wh + hl + lw)
Longest Diagonal	$d = \sqrt{a^2 + b^2 + c^2}$

Cube



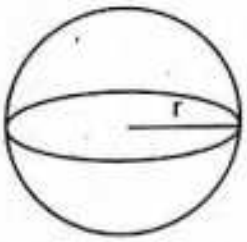
Quantity	Formula
Surface Area	$SA = 6a^2$
Volume	$V = a^3$
Short Diagonal	$d_s = a\sqrt{2}$
Longest Diagonal	$d_l = a\sqrt{3}$

Cylinder



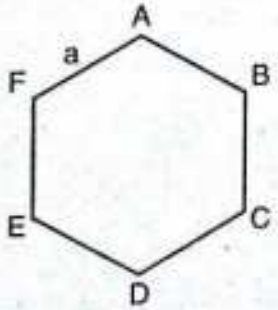
Quantity	Formula
Volume	V = Bh
	$V = \pi r^2 h$
Surface Area	$S_1 = 2\pi rh$ [without bases]
	$S_2 = 2\pi r(h + r)$ [with bases]

Sphere



Quantity	Formula
Volume	$V = \frac{4}{3}\pi r^3$
Surface Area	$S = 4\pi r^2$

Regular Hexagon



Quantity	Formula
Each Angle (equal)	180° x (6-2) / 6 = 120°
Area	$A = \frac{3\sqrt{3}}{2} a^2$

Chapter 4
Analytical Ability

- ⇨ Puzzles
- ⇨ Critical Reasoning
- ⇨ Data Sufficiency
- ⇨ IQ Questions & Math Tricks

PUZZLES

IBA এর BBA / MBA ভর্তি পরীক্ষায় Analytical Ability Section এর most important part হচ্ছে Puzzle Questions. এ ধরনের questions এ বেশকিছু Data/Information দেয়া থাকে। আমাদের কাজ হবে এই Data/Information গুলোকে organize করে questions গুলি solve করা। Example দিয়ে না বুঝালে আসলে ব্যাপারটি clear হবে না। আমরা recent IBA পরীক্ষার একটি question নিয়ে আলোচনা করি।

An office manager must assign six employees to six offices, consecutively numbered 1 to six 6, which are arranged in row and are separated only by six-foot high dividers. Therefore, voices, sound, and cigarette smoke readily pass from each office to those on either side.

- Beauty's work requires her to speak on the telephone frequently throughout the day.
- Wasim and Borhan often talk to one another, and prefer to have adjacent offices.
- Gulzar, the most senior employee, is entitled to office 5, which has the largest window.
- Peter needs silence in the office (s) next to his own.
- Ahmed, Wasim and Peter all smoke. Gulzar must have non–smokers in the office(s) next to her.

Questions:

1. The best employee to occupy the office furthest from Borhan would be
   (a) Peter (b) Beauty (c) Gulzar (d) Ahmed (e) Wasim
2. The three employees who smoke should be placed in offices
   (a) 2,3 and 6 (b) 1,2 and 4 (c) 1, 2 and 6 (d) 2, 3 and 4 (e) 1, 2 and 3
3. The best location for Wasem's office no:
   (a) 1 (b) 2 (c) 3 (d) 4 (e) 6

আমরা প্রথমে question stimulus নিয়ে আলোচনা করব। আমাদেরকে ছয়জন কর্মচারীর জন্য ছয়টি office বরাদ্দ করতে হবে।

1	2	3	4	5	6

বলা আছে, senior employee Gulzar 5 no. office-এ বসবেন।

1	2	3	4	G	6

Ahmed, Wasim আর Peter তিনজনই smoke করে এবং Gulzar smoking সহ্য করতে পারে না। সুতরাং Gulzar এর আশেপাশে অর্থাৎ 4 বা 6 no. office-এ তারা বসতে পারবে না। তাদেরকে বসাতে হবে 1, 2, 3 -এ। Wasim এবং Borhan পাশাপাশি বসবে। সুতরাং smokers দের মধ্যে Wasim-কে 3 no. office-টি দেয়া যায় যাতে আমরা 4 no. office-এ Borhan-কে বসাতে পারি।

1	2	W	Bor	G	6

Peter সব সময় পাশের office -এ silence চায়। অতএব, তাকে 2 no. office -এ দেয়া যাবে না। কারণ 3 ও 4 no. office এর Wasim ও Borhan সব সময় কথা বলে। অর্থাৎ 1 no. office -এ Peter এবং 2 no. office -এ Ahmed-কে বসানো যায়।

P	A	W	Bor	G	6

বাকী রইল Beauty. তার একটিই জায়গা office no. 6। এভাবে বসালে সব শর্তগুলোই মানা হয়-

P	A	W	Bor	G	Bea

সুতরাং, Question No. 1, 2 এবং 3 এর answer যথাক্রমে (a), (e) এবং (c).
এভাবে Puzzle Questions Solve করতে হয়।

The Step-by-step Strategy

In this section you will be provided with the basic outline to solve the puzzles. Our techniques should help you considerably, but you'll still need to work on puzzles a little each day. Improving your score on them will require practice.
You will need to practice one or two problems to understand these steps elaborately.

STEP 1: Read the whole setup and all the clues.

STEP 2: Draw a model diagram that shows the structure of the puzzle

STEP 3: Symbolize the clues in a way that's consistent with your diagram for the puzzle.

STEP 4: Double-check your diagram and symbols.

STEP 5: Size up the clues and draw deductions.

STEP 6: Attack the questions.

STEP 7: Keep your pencil moving.

Some Symbolizing Guidelines

The symbolizing guidelines will work as your "tips" to approach the puzzles. These are very general guidelines and your own idea of thinking up different problems may differ from these. Don't take these as standards; always try to come up with new ideas to help yourself.

- Make separate symbols for each element: for example, WWWW, not 4W. Try to use initials instead of full names.
- When two elements are always next to each other, put a BLOCK around them. Blocks make puzzles much easier.
- When two elements can never be next to each other, use an ANTIBLOCK symbol
- For conditional clues (If ... then...) use an ARROW (⟶) .The element that depends on something goes on the right. The independent element goes on the left side of the arrow. Always remember the Cause and Effect relationship diagrams. Ask your instructor for a detailed analysis of this issue.
- Try to form secondary conditions from one or more primary conditions which are explicitly mentioned in the puzzle.
- In some cases it's just not possible to symbolize a clue. Be sure to write some shorthand summary of the clue, or circle it with your pencil, so that you don't forget to check that clue as you do to each question.
- The more time you spend analyzing the conditions of the puzzle, the easier the questions will seem. So, take sufficient time to crack the conditions, to form secondary conditions, and to draw a proper diagram of the puzzle.

নিচে বেশ কয়েকটি exercise দেয়া আছে। এগুলো করার চেষ্টা করুন।

PRACTICE EXERCISE

Questions 1 - 3 are based on the following information:

Eight varsity baseball players (G, H, J, K, L, M, N, O) are to be honored at a special ceremony. Three of these players (H, M, and O) are also varsity football players. Two of them (K and N) are also basketball players on the varsity team. In arranging the seats it was decided that athletes in two sports should not be seated next to another two-sport athlete.

1. Which of the following combinations is possible in order to have the arrangement of seat assignments as planned?

A. H G K L B. H K J L C. J K M N D. J L H K E. L K N J

2. To have the proper seating arrangement, K could be between:

A. G and H B. J and M C. G and J D. J and N E. J and O

3. Which of the following cannot sit next to M?

A. G B. J C. L D. K E. None of these

Questions 4 - 9 are based on the following information:

At a certain restaurant, above the kitchen door there are four small lights, arranged side by side and numbered consecutively, left to right, from one to four. The lights are used to signal waiters when orders are ready. On a certain shift there are exactly 5 waiters David, Ed. Flint, Guy, and Hank.

To signal David, all four lights are illuminated.
To signal Ed, only light 1 & 2 are illuminated.
To signal Flint, only light 1 is illuminated.
To signal Guy, only light 2, 3 & 4 are illuminated.
To signal Hank, only lights 3 & 4 are illuminated.

4. If lights 2 & 3 are off, the waiter signaled is
A) David B) Ed C) Flint D) Guy E) Hank.

5. If lights 3 & 4 are illuminated, then the signal of which of the following waiters might be displayed?
I) David (II) Guy (III) Hank
A) I only B) III only C) I and II only D) II and III only E) I, II and III

6. If light one is not illuminated, then the signal of which of the following waiters might be displayed?
I) Ed (II) Guy (III) Hank
(A) I only (B) I and II only (C) I and III only
(D) II and III only (E) I, II and III.

7. If light three is on and light two is off, then the waiter signaled is
(A) David (B) Ed (C) Flint (D) Guy (E) Hank

8. If 1 of the 5 waiters is being signaled, the lights in which of the following pairs could not both be off?
(A) 1 & 2 (B) 1 & 3 (C) 2 & 3 (D) 2 & 4 (E) 3 & 4

9. If light 4 is on, which of the following must be true?
A) Light three is not on B) Light two is not on
C) If light one is on, David is signaled D) If light three is not on, Ed is signaled
E) None of these

Questions 10 - 15 are based on the following information:

A student planning his curriculum for the upcoming semester must enroll in three courses. The available courses fall into one of five general areas: math, English, social studies, science & fine arts. The student must take courses from at least two different areas.

If he takes an English course, he cannot take a fine arts course & if he takes a math course, he cannot take an English course.
If he takes a science course, he must take a math course & if he takes a math course, he must take a science course.
He can take a social studies course only if he takes a fine arts course.

10. Which of the following is an acceptable schedule of courses?
A) one science course, one English course & one fine arts course.
B) one math course, one science course & one social studies course.
C) one math course, one social studies & one fine arts course.
D) one English course, one social studies course & one fine arts course.
E) one math course, one science course & one fine arts course.

11. Which of the following is NOT an acceptable schedule?
A) 2 math courses & one science course
B) 2 science courses & one math course
C) 2 fine arts courses & one math course
D) 2 social studies courses & one fine arts course.
E) One social studies course & 2 fine arts courses.

12. Which of the following courses when taken with one course in social studies is an acceptable schedule?
A) one course in math & one course in science
B) one course in fine arts & one course in English.
C) two courses in fine arts
D) two courses in English.
E) one math course & one English course

13. If a student wishes to take two courses in math, then he must select his third course in the area of
A) English (B) fine arts (C) math (D) science (E) social studies.

14. Which of the following pairs of courses can be combined in an acceptable schedule?
A) a course in math & a course in fine arts
B) a course in math & a course in social studies
C) a course in math & a course in English
D) a course in social studies & a course in science
E) a course in science & a course in English.

15. If the student wishes to take a course in science, then which of the following pairs of course would complete an acceptable schedule?
A) two math courses (B) two science courses (C) two English courses
D) one science course & one English course
E) one math course & one social studies course.

Questions 16 - 18 are based on the following information:

An office building has 6 floors & each floor is occupied by exactly 1 business. The 6 business are an insurance agency, a doctor's group, a law firm, a printing company, a dance studio, and a shirt factory.
The insurance agency is located somewhere below the fourth floor.
The doctor's group is separated from the insurance agency by the same number of floors that separate the insurance agency from the law firm.
The printing company is located somewhere between the dance studio and the insurance agency.
The law firm is either immediately above or immediately below the printing company.

16. Which of the following is a possible arrangement of the business, from 1st floor to the 6th floor?
A) doctor's group, insurance agency, law firm, printing company, dance studio, shirt factory.
B) doctor's group, insurance agency, law firm, shirt factory, printing company, dance studio.
C) insurance agency, law firm, printing company, doctor's group, dance studio, shirt factory.
D) shirt factory, law firm, printing company, insurance agency, doctor's group, dance studio.
E) dance studio, printing company, insurance agency, law firm, doctor's group, shirt factory.

17. If the dance studio is on 5th floor, on which floor is the shirt factory located?
A) first (B) second (C) third (D) fourth (E) sixth.

18. If the shirt factory is located on the 5th floor, which of the following must be true?
A) the insurance agency is on the first floor
B) the doctor's group is on the second floor
C) the law firm is on the third floor
D) the dance studio is on the fourth floor
E) the printing company is on the sixth floor.

Questions 19 - 24 are based on the following information:

A museum curator must group nine paintings F, G, H, J, K, L, M, N, and O – in twelve spaces numbered consecutively from 1-12. The paintings must be in three groups, each group representing a different century. The groups must be separated from each other by at least one unused wall space. Three of the paintings are from the eighteenth century, two from the nineteenth century, and four from the twentieth century.

Unused wall spaces cannot occur within groups.
G and J are paintings from different centuries.
J, K, and L are all paintings from the same century.
Space number 5 is always empty.
F and M are eighteenth-century paintings.
N is a nineteenth-century painting.

19. If space 4 is to remain empty, which of the following is true?
A) Space number 10 must be empty.
B) The groups of paintings must be hung in chronological order by century.
C) An eighteenth-century painting must be hung in space 3.
D) A nineteenth-century painting must be hung in space 1.
E) A twentieth-century painting must be hung in space 12.

20. If the paintings are hung in reverse chronological order by century, the unused wall spaces could be
A) 1, 5, and 10 B) 1, 6, and 10 C) 4 , 7, and 8 D) 5, 8, and 12 E) 5, 9, and 10

21. Which of the following is a space that CANNOT be occupied by a nineteenth-century painting?
A) Space 1 B) Space 6 C) Space 8 D) Space 11 E) Space12

22. If J hangs in space 11, which of the following is a possible arrangement for spaces 8 and 9?
A) F in 8 and M in 9 B) K in 8 and G in 9 C) N in 8 and G in 9
D) 8 unused and H in 9 E) 8 unused and F in 9

23. If the twentieth-century paintings are hung in spaces 1-4, which of the following CANNOT be true?
A) Space 8 is unused B) Space 9 is unused C) F is hung in space 6
D) M is hung in space 12 E) N is hung in space 9

24. If the first five paintings, in numerical order of spaces, are F, O, M, N, G, which of the following must be true?
A) Either space 1 or space 4 is unused
B) Either space 7 or space 12 is unused
C) H is hung in space 11
D) Two unused spaces separate the eighteenth-century and nineteenth-century paintings
E) Two unused spaces separate the nineteenth-century and twentieth-century paintings

Questions 25 - 28 are based on the following information:

A large office complex has exactly seven buildings – R, S, T, U, V, W, and X. A delivery service with four vans – van 1, van 2, van 3, and van 4 – carries packages by vans from building to building at the complex. Each van has a unique route, which it repeats throughout the day:

Van 1 travels only from R to S, from S to T, from T to U, from U to V, and from V to R.
Van 2 travels only from S to W and back to S.
Van 3 travels only from T to V and back to T.
Van 4 travels only from U to X and back to U.

Vans stop at each building to which they travel, and packages can be picked up and delivered at any stop. Any van can also leave a package for any other van to pick up at any building where both vans stop.

25. A package sent by a van can be delivered with no intermediate stops if it is sent from
A) R to W B) S to R C) T to R D) U to T E) V to T

26. On its way to any building in the complex, a package sent by van from W must travel to
A) R B) S C) T D) U E) V

27. What is the minimum number of intermediate stops for a package sent by a van from R to V?
A) One B) Two C) Three D) Four E) Six

28. Which of the following lists all of the vans, in the order of use, that would be needed to send a package by van from X to T with the minimum number of intermediate stops?
A) Van 3, Van 1 B) Van 4, Van 1 C) Van 1, Van 2, Van 3
D) Van 2, Van 1, Van 4 E) Van 4, Van 1, Van 3

Questions 29 - 33 are based on the following information:

The manager of a radio program is going to feature six vocalists – M, N, P, Q, R, and S on her late-night radio show during the course of one week. She will feature one vocalist on the show each day from Monday through Saturday. The manager must schedule the vocalists for the show according to the following conditions:

M must be featured earlier in the week than R.
P must be featured on Tuesday.
Q must be featured on the day immediately before or immediately after the day on which N is featured.

29. If N is featured on Thursday, the earliest day on which R can be featured is:
(A) Monday (B) Tuesday (C) Wednesday (D) Friday (E) Saturday

30. If S is to be featured on Friday, M must be featured on:
(A) Monday (B) Tuesday (C) Wednesday (D) Friday (E) Saturday

31. If Q is to be featured on Thursday, the latest day on which M can be featured is:
(A) Monday (B) Tuesday (C) Wednesday (D) Friday (E) Saturday

32. Which of the following vocalists can be featured on Monday?
(A) N (B) P (C) Q (D) R (E) S

33. If S is to be featured on Friday, what is the total number of acceptable schedules available to the manager?
(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

Questions 34 - 37 are based on the following information:

Seven meetings – J, K, L, M, N, O, and P – are to be scheduled, one on each day of a week that begins on Sunday.

Meeting J must take place on Sunday.
Meeting K must take place after both meeting L and meeting M.
Meetings N, O, and P must take place on three consecutive days, not necessarily in that order.

34. Which is the latest day of the week on which meeting L can take place?

A) Tuesday B) Wednesday C) Thursday D) Friday E) Saturday

35. Which of the following must be true about the order of meetings?

A) L takes place after J B) L takes place after O C) N takes place after O
D) N takes place after P E) O takes place after P

36. If meeting O is on Saturday, then meeting K must take place on:

A) Monday B) Tuesday C) Wednesday D) Thursday E) Friday

37. Which of the following represents a possible ordering of meetings on three consecutive days?

A) JKM B) KLO C) MNJ D) OJN E) POM

Questions 38 - 40 are based on the following information:

A detective watching suspects Q, R, S, and T and their movements in and out of a downtown building, has made the following observations:

Every day, each of the suspects enters, and later leaves, the building exactly once.
No suspect ever enters or leaves the building together with another suspect.
No suspect ever leaves the building in the same position – first, second, third, or fourth – in which he or she entered the building.
Both in entering the building and in leaving it, R is always earlier than S.

38. Which of the following could be the order, from first to last, in which the suspects leave the building on a day on which they enter it in the order T, Q, R, S?

A) Q, R, S, T B) Q, R, T, S C) R, Q, S, T D) S, T, Q, R E) T, R, S, Q

39. If on a certain day, Q and T enter the building second and third, respectively, and Q also leaves the building before T does, the order in which the suspects leave the building, from first to fourth, must be

A) Q, R, S, T B) Q, R, T, S C) Q, T, R, S D) R, Q, S, T E) R, S, Q, T

40. On a day on which the two suspects who enter the building first are also the two suspects who leave it first, the last two suspects to enter the building could be

A) Q and R B) Q and T C) R and S D) R and T E) S and T

Questions 41 – 44 are based on the following information:

A weaver who is working on six rugs - G, H, I, J, K and L- is preparing a work schedule for a work week consisting of five consecutive workdays – Monday through Friday. Rugs G, H and I are of pattern 1, rugs J and K are of pattern 2 and rug L is of pattern 3. The work must be scheduled in accordance with the following conditions:

The weaver must work on each of the six rugs during the work week.

The weaver cannot work on the same rug for two consecutive days.

On any day that the weaver works on rug G, the weaver must work on rug J; the weaver cannot work on rug L that day.

On any day the weaver works on more than one rug, those rugs must all be of different patterns.

41. If the weaver wants to work on more than two rugs in a day, which of the following must be there in the work schedule?
A. G B. I C. K D. L E. None of these

42. The weaver could schedule work on which of the following rugs for the same day?
A. G, J, and L B. G, I, and K C. G, J, and K D. H, I, and L E. H, J, and L

43. If the weaver's decision is to work on rug J on Tuesday, the weaver CANNOT work on rug
A. G on Monday B. H on Tuesday C. I on Wednesday
D. K on Thursday E. L on Friday

44. If the weaver's decision is to work on rug G on Monday and Friday only, and on rug K on Wednesday only, the weaver must work on a rug of pattern 2 on exactly how many workdays?
A. 1 B. 2 C. 3 D. 4 E. 5

Questions 45 – 48 are based on the following information:

A university acting class is presenting a series of five skits using six performers, Asif, Rahat, Nafis, Shuvro, Emon, and Johny. Each performer must perform in exactly three of the skits.

Only Nafis and Shuvro will perform in the first skit

Johny and three others will perform in the second skit.

Only Rahat will perform in the third skit.

More people perform in the fourth skit than in the fifth skit.

45. Which of the following must be true?
A. Rahat and Emon perform in the second skit.
B. Rahat and Johny perform in the fifth skit.
C. Emon does not perform in the fifth skit.
D. Exactly four people perform in the fourth skit.
E. Exactly five people perform in the fifth skit.

46. For which of the following pairs is it true that if one appears in a skit, the other must also appear?
A. Asif & Rahat B. Asif & Johny C. Shuvro & Nafis
D. Shuvro & Johny E. Emon & Nafis

47. Which of the following CANNOT be true?
A. Neither Nafis nor Shuvro appears in the second skit.
B. Neither Nafis nor Shuvro appears in the fifth skit.
C. Rahat and Emon appear in the second skit
D. Rahat appears in the second skit.
E. Nafis, Shuvro, and Emon appear in the fifth skit.

48. If Rahat does not appear in the fifth skit, all of the following must be true EXCEPT:
A. Shuvro appears in the second skit. B. Rahat appears in the second skit.
C. Nafis appears in the fifth skit. D. Shuvro appears in the fifth skit.
E. Emon appears in the fifth skit.

Questions 49 – 52 are based on the following information:

Six contestants- Mashrifa, Rumana, Nazia, Fahmida, Samia, and Ushama are to be ranked first (highest) through sixth (lowest), though not necessarily in that order, at the start of a singles Ping-Pong challenge tournament.

Samia is ranked above Ushama
Nazia is ranked above both Mashrifa and Rumana
Fahmida is ranked two places above Mashrifa
Samia is ranked either third or fourth.
During the tournament, a player may challenge only the player ranked immediately above him or the player ranked two places above him.

49. Which of the following is a possible initial ranking from highest to lowest?
A. Nazia, Mashrifa, Fahmida, Samia, Rumana, Ushama
B. Fahmida, Nazia, Mashrifa, Rumana, Samia, Ushama
C. Fahmida, Ushama, Mashrifa, Samia, Nazia, Rumana
D. Fahmida, Nazia, Mashrifa, Samia, Rumana, Ushama
E. Nazia, Fahmida, Mashrifa, Samia, Rumana, Ushama

50. If Fahmida is initially ranked first, which of the following must also be true of the initial ranking?
A. Nazia is ranked second. B. Mashrifa is ranked second. C. Samia is ranked third.
D. Ushama is ranked fifth. E. Rumana is ranked sixth.

51. If Samia is initially ranked third, which of the following must also be true of the initial ranking?
A. Nazia is ranked first. B. Fahmida is ranked second. C. Ushama is ranked fourth.
D. Rumana is ranked fourth. E. Rumana is ranked sixth.

52. If Fahmida is initially ranked third, and if she makes the first challenge, which of the following contestants could she play in the first match?

I. Samia II. Mashrifa III. Rumana IV. Nazia
A. I and II only B. I and III only C. II and IV only
D. III and IV only E. I, II, and IV

Questions 53 – 56 are based on the following information:

A garden plot consists of seven parallel rows of vegetables. The rows are numbered consecutively one through seven. In each row a different one of seven vegetables – J, K, L, M, N, O, P – is to be grown according to the following conditions.

Neither J nor K can be in a row next to the row P is in.
M must be grown in either row one or row seven.
L must be grown in a row next to a row containing either N or P, or in a row that is the only row between the rows containing N and P.
If O is next to only one other row of vegetables, that row must contain K.

53. Which of the following is a possible order for the vegetables in the garden plot from row one to row seven?
(A) L J K N P O M
(B) M P J L N K O
(C) M N L P O J K
(D) M N L P J K O
(E) N P L J M O K

54. If P is next to M, and O is in the seventh row, in which row must P be planted?
(A) Row 2 (B) Row 3 (C) Row 4 (D Row 5 (E) Row 6

55. If O is in the first row and J is in the sixth row, which vegetable must be in the fourth row?
(A) N (B) K (C) L (D) M (E) P

56. If J, K, L, N, and P are in the inner five rows, which of the following is a possible ordering of these vegetables in the five rows?
(A) J K L P N
(B) J N L P K
(C) K L J N P
(D) K N P L J
(E) L J K N P

Question 57 – 60 are based on the following information:

Six campers - Riyad, Sagor, Alif, Emon, Nafis, and Mazhar are arranging a dishwashing schedule for the six days of their camping trip so that each of them will wash dishes on only one day.

If Riyad washes on day 1, Alif washes on day 4; Alif does not wash on day 4 unless Riyad washes on day 1.
If Riyad washes on day 1, Mazhar washes on day 5; Mazhar does not wash on day 5 unless Riyad washes on day 1.
If Nafis does not wash on day 3, Riyad washes on day 3.
If Riyad washes on day 4, Emon washes on day 5.
If Sagor washes on day 2, Nafis washes on day 5.
If Mazhar washes on day 6, Emon washes on day 4.
Sagor washes either on day 2 or on day 6.

57. Which of the following is an acceptable order in which the campers can wash dishes from the first to the last day?
A. Emon, Sagor, Riyad, Nafis, Alif, Mazhar
B. Sagor, Riyad, Mazhar, Alif, Nafis, Emon
C. Mazhar, Nafis, Sagor, Alif, Emon, Riyad
D. Alif, Sagor, Riyad, Emon, Nafis, Mazhar
E. Riyad, Sagor, Emon, Alif, Nafis, Mazhar

58. If Emon washes on day 6, on which day does Alif wash?
A. 1 B. 2 C. 3 D. 4 E. 5

59. If Riyad washes on day 1, who washes on day 2?
A. Sagor B. Alif C. Emon D. Nafis E. Mazhar

60. If Sagor washes on day 2, which of the following is a complete and accurate list of the days that could be the day on which Mazhar washes?
A. 1 B. 4 C. 1, 4 D. 4, 6 E. 1, 4, 6

ANSWER KEYS

1. A	2. C	3. D	4. C	5. E	6. D	7. E	8. B
9. C	10. E	11. C	12. C	13. D	14. A	15. A	16. A
17. E	18. C	19. C	20. D	21. A	22. D	23. E	24. A
25. E	26. B	27. B	28. E	29. C	30. A	31. D	32. E
33. B	34. D	35. A	36. C	37. E	38. A	39. A	40. E
41. D	42. E	43. A	44. C	45. E	46. B	47. B	48. A
49. D	50. A	51. A	52. D	53. C	54. A	55. E	56. D
57. D	58. A	59. C	60. E				

CRITICAL REASONING

IBA ভর্তি পরীক্ষায় Analytical Ability section এর গুরুত্বপূর্ণ একটি sub-section হচ্ছে Critical Reasoning. এ ধরনের প্রশ্নগুলো সাধারণত GMAT (Graduate Management Aptitude Test) এর প্রশ্নগুলোর অনুকরণে করা হয়। কিন্তু মনে রাখবেন, GMAT এর শুধুমাত্র সহজ সমস্যাগুলো IBA এর ভর্তি পরীক্ষায় আসে। Graduate level student দের জন্য প্রস্তুত করা এ ধরনের প্রশ্নগুলো সহজ উপায়ে কিভাবে Solve করা যায়, তা বিস্তারিত ভাবে এই Section এ আলোচনা করা হয়েছে।
Critical reasoning questions এর প্রধান উদ্দেশ্য হচ্ছে argument construction evaluation-এ student দের skill test করা। সুতরাং প্রথমেই আমাদের জানতে হবে argument কি?

Argument: An argument is a sequence of two or more phrases, clauses, sentences or statements, one of which is a claim or conclusion, which follows the premise.
অর্থাৎ একটি argument হচ্ছে দুই বা ততোধিক বক্তব্যের সমষ্টি। এই বক্তব্যগুলোর একটি হচ্ছে Claim বা conclusion (সিদ্ধান্ত) এবং বাকী এক বা একাধিক বক্তব্য হচ্ছে premise বা evidence (সূত্র বা ঘটনা)। এই এক বা একাধিক সূত্রের উপর ভিত্তি করে আমরা যে সিদ্ধান্তে উপনীত হই, সেটাই হচ্ছে conclusion.

Premise এবং Conclusion :

Premise: সোজা বাংলায় Premise অর্থ হচ্ছে প্রাঙ্গন। আমরা যদিও একে সূত্র বা ঘটনা বলে অভিহিত করছি; এর actual ধারণাটা কিন্তু অর্থের মধ্যে নিহিত আছে। প্রাঙ্গন বলতে একটি নির্দিষ্ট area বোঝানো হয়। আমরা যখনই কোন conclusion বের করতে চাইব, আমাদেরকে অবশ্যই সেই নির্দিষ্ট area এর ভিতর কাজ করতে হবে। Premise-এ যা বলা থাকবে, সেটাকে সঠিক ধরে নিয়ে আমাদের এগোতে হবে। Remember, premise(s) is (are) always true.

আরেকটা জিনিস খেয়াল রাখতে হবে। আমাদেরকে premise (s) এর সম্পূর্ণ area cover করতে হবে। তবেই আমরা logical conclusion এ পৌঁছাতে পারব। যেমন, All cars are red -এই বাক্যটি একটি premise. আমাদেরকে এখন ধরে নিতে হবে যে সব গাড়ীই লাল, যদিও এটা নিতান্তই অবাস্তব একটা বক্তব্য। কিন্তু premise (s) এর যথার্থতা বিচার করা আমাদের কাজ নয়, আমাদের কাজ হচ্ছে - যা premise(s)-এ দেওয়া আছে, তার উপর ভিত্তি করে একটি যৌক্তিক সিদ্ধান্তে (Conclusion) পৌঁছানো।

Conclusion: Reading comprehension এর ক্ষেত্রে আমরা যেভাবে passage পড়ি, Analytical Ability এর passage পড়াটা সেটার থেকে সম্পূর্ণ different. এক্ষেত্রে passage টা খুব closely পড়তে হবে। পড়ার সময় আমাদের মূল উদ্দেশ্য হবে conclusion টা খুঁজে বের করা । অনেক সময় argument থাকে partial, এতে শুধুমাত্র premise (s) দেয়া থাকে এবং student দের conclusion খুঁজে বের করতে বলা হয়। আবার অনেক ক্ষেত্রে একটি premise ও একটি conclusion দেওয়া থাকে এবং student দেরকে বলা হয় যে এই conclusion টি illogical অথবা invalid, আরেকটি premise উপরোক্ত argument -এ add করলে হয়তো আমরা প্রদত্ত Conclusion এর

যৌক্তিকতা প্রমাণ করতে পারব। তখন Question হতে পারে, The conclusion above is valid only when which of the following is true? অতএব, argument এর conclusion বের করা এবং এর logic বা validity বিচার করা অত্যন্ত important একটি কাজ। আমরা আমাদের আগের premise-এ ফিরে যাই- All cars are red. এর সাথে আরও একটি premise যোগ করি- I have a car. এই দুটো premise থেকে obvious যে conclusion পাওয়া যায় তা হচ্ছে - My car must be red.

IDENTIFYING OR LOCATING 'PREMISE' AND 'CONCLUSION':

A conclusion gets support; premise(s) provide(s) it. অর্থাৎ একটি argument এর এক বা একাধিক Premise ঐ argument এর conclusion কে support করে।

The premises answer the question. "Why"?

To find the conclusion, ask yourself, "What's the point"? অর্থাৎ, argument এর point বা claim হচ্ছে conclusion এবং এই claim এ আসার পেছনে যে reason আছে, তা হচ্ছে premise.

Let's try a simple example:

"I like to watch television. My TV just broke down. Therefore, I should get a new TV".

এখন আমরা একটা পরীক্ষা করব যার নাম **"WHY TEST"**. উপরোক্ত argument এর conclusion খুঁজে বের করা হবে আমাদের প্রথম কাজ। অতঃপর আমাদের প্রশ্ন হবে 'why'? Premise / statement গুলোকে অবশ্যই এই conclusion-এ আসার কারণ হিসেবে দেখাতে হবে। Now let's try.

Conclusion: "My TV just broke down".

Why: "I like to watch television. I should get a new TV".

Huh! It just doesn't make any sense this way. Reason অথবা cause হিসেবে যে statement গুলোকে উপস্থাপন করা হয়েছে, সেগুলো উপরোক্ত Conclusion কে Support করে কি? অবশ্যই না।

Now let's try it in another way-

CONCLUSION: "I should get a new TV".

WHY: "I like to watch television. My TV just broke down".

Students, এখন নিশ্চয়ই আপনারা Clearly দেখতে পাচ্ছেন যে উপরোক্ত Conclusion কে নিচের cause দুটো support করছে। নতুন একটি টিভি কেনার পেছনে যুক্তি হিসেবে কাজ করছে দুটো statement -এক, আমি টিভি দেখতে পছন্দ করি এবং দুই, আমার টিভিটা ভেঙ্গে গেছে।

CUE WORDS: কিছু Specific শব্দ আছে, যেগুলোর সাহায্যে অতি সহজেই আমরা premise এবং conclusion identify করতে পারব। এগুলোকে বলা হয় cue words.

Cue words for locating premise

If	given that	since	suppose	as
for	in view of	because	assume	

Cue words for locating conclusion

thus	it provides that	so	as a result	which means that
Hence	consequently	then	it follows that	which proves that
must	which shows that	therefore	it can be inferred that	which suggests that

আমরা example এর মাধ্যমে এগুলোর use বোঝার চেষ্টা করি।

"The ground was wet, so it must have been raining".

এখানে আমরা conclusion চিহ্নিত করার জন্য দুটি cue word পাচ্ছি so এবং must.

"Since this car is made in Japan and all Japanese cars are relatively cheap, this car must be cheap".

উপরের argument এ আমরা premise locate করার জন্য since এবং conclusion locate করার জন্য must -এই দুটো Cue words পাচ্ছি।

কিন্তু অনেক সময় দেখা যায়, argument-এ কোন Cue word নেই। তখন আমাদেরকে চিন্তা করতে হবে what the author is trying to prove : Argument এর প্রতিটি বক্তব্য পড়ার সময় আমরা চিন্তা করব, লেখক কি সিদ্ধান্তে আসতে চাচ্ছেন। নিচের example টা দেখলে ব্যাপারটা বোঝা যাবে ঃ

"Our suggestions proved to be logical. The officer promised to implement those after we had described their necessities".

উপরোক্ত argument এ কোন cue word নেই। এখন আমরা এই argument কে তিন ভাগে ভাগ করে ফেলি-

1) We suggested something to an officer.
2) The officer promised to implement those after hearing the necessities of the suggestions.
3) Our suggestions proved to be logical.

লেখক উপরোক্ত argument-এ কি সিদ্ধান্ত নিতে চাইছেন, তা একটু মাথা খাটালেই বের করা যায়। আমাদের কিছু পরামর্শের যৌক্তিকতা বিচার করে একজন কর্মকর্তা সে সব পরামর্শ কার্যক্ষেত্রে apply করার প্রতিশ্রুতি দিয়েছেন। Argument-এর এই অংশটুকু একটা ঘটনার বিবরণ দিচ্ছে। সুতরাং this is not the part the author is trying to prove. লেখক এই ঘটনার ভিত্তিতে এই সিদ্ধান্তে পৌঁছেছেন যে, আমাদের পরামর্শগুলো logical বলে প্রমাণিত হয়েছে। অর্থাৎ প্রদত্ত argument এর প্রথম বাক্যটিই argument এর conclusion এবং বাকী অংশটুকু premise.

এ থেকে আমরা আরেকটি সিদ্ধান্তে আসতে পারি- "Conclusions do not have to be at the end of an argument. Conclusion and premises may be reversed in position while the same meaning is conveyed".

অর্থাৎ, কোন কোন argument- এ conclusion প্রথমে এবং premise (s) পরে থাকতে পারে। এতে argument এর meaning পরিবর্তন হয় না।

এবার আমরা argument-কে দুটি category তে ভাগ করব।

Deductive and Inductive Arguments:

An argument may be defined as deductive if it is IMPOSSIBLE for the conclusion to be false if all the premises are true. In other words, in a deductive argument, the premises necessitate the conclusion.

অর্থাৎ, যদি কোন argument এর premise গুলো সত্যি হলে ঐ argument এর conclusion কে মিথ্যা প্রমাণিত করা অসম্ভব হয়, তবে ঐ argument হচ্ছে Deductive Argument.

একটি example এর সাহায্যে আমরা ব্যাপারটা বোঝার চেষ্টা করি-

Premise: All men are mortals.
Premise: Iftekhar is a man.
Conclusion: Therefore, Iftekhar is mortal.

এই argument এর premise দুটি যদি সত্য হয়, তাহলে Conclusion টা অবশ্যই সত্য। এক্ষেত্রে Premise দুটি Conclusion টিকে অপরিহার্য করে তুলেছে।

An argument is inductive if it is "IMPROBABLE' that the conclusion is false if all premises are true. The premises do not necessitate the conclusion. The conclusion may be false if all premises are true.

অর্থাৎ একটি argument এর premise গুলো সত্যি হওয়া সত্ত্বেও যখন ঐ argument এর Conclusion valid না invalid তা নিশ্চিতভাবে বলা যাবে না, তখন ঐ argument কে বলা হবে Inductive Argument.

Premise: New students usually do the classes seriously.
Premise: Auntu and Sumaiya are new students.
Conclusion: Therefore, they do the classes seriously.

উপরোক্ত argument এর key word হচ্ছে usually. সাধারণত নতুন ছাত্রছাত্রীরা seriously class করে। এখানে কিন্তু বলা হচ্ছে না সব নতুন ছাত্র ছাত্রী Seriously Class করে। সুতরাং আমরা এই সিদ্ধান্ত নিতে পারি না যে নতুন student হলেই সে seriously class করবে। বরং আমাদের Conclusion হওয়া উচিত এরকম- They may do the classes seriously. এ ধরনের argument কে বলা হয় Inductive argument.

Some, Usually, Sometimes, Generally এ ধরনের শব্দগুলো inductive argument কে চিহ্নিত করে।

'ONLY' AND 'ALL'- A common Analytical trick:

শুনতে খুবই সহজ দুটি শব্দ- only এবং all- 'শুধুমাত্র' এবং 'সব'' কিন্তু এই দুটো শব্দের মধ্যে কোন প্রকার Confusion যদি student দের মনে থাকে, তবে তারা অতি সহজেই analytical question এর ফাঁদে ধরা দেবে। তাই আসুন এখন এই ছোট্ট এবং সহজ শব্দ দুটি নিয়ে আলোচনা করি। প্রথমেই নিচের example টা পর্যবেক্ষণ করা যাক।

Premise: Riyad is a student of I.B.A.
Premise: Only I.B.A. students are involved with Mentors'.
Conclusion: Therefore, Riyad is involved with Mentors'.

উপরোক্ত argument এর conclusion টি valid নয়। কারণ প্রথম ও দ্বিতীয় premise থেকে আমরা কখনও বলতে পারি না যে সব IBA students Mentors' এর সাথে জড়িত। বরং দ্বিতীয় premise থেকে আমরা বলতে পারি যে, Mentors' এর সাথে যারাই জড়িত, তারা সবাই IBA-র students. যদি দ্বিতীয় premise -এ only এর পরিবর্তে all থাকতো, তবেই প্রদত্ত argument এর conclusion টি valid হতো।

এখন আমরা আরেকটি example পর্যবেক্ষণ করি।

Premise: All the players of the Brazil team have exceptional skill.
Premise: Baggio is a player of the Italian team.
Conclusion: Baggio does not have exceptional skill.

এক্ষেত্রেও Conclusion টি invalid প্রদত্ত premises থেকে এটা clear যে, Brazil team এর সব player-ই exceptionally skilled; কিন্তু premise এ বলা নেই যে, তারা ছাড়া আর কেউ exceptionally skilled হতে পারে না। প্রথম premise এ যদি আমরা all এর পরিবর্তে only ব্যবহার করি, তখন conclusion টা valid হয়ে যায়, কারণ তখন premise এর বক্তব্যে দাঁড়ায় এরকম- শুধুমাত্র ব্রাজিল team এর player রা exceptionally skilled, আর কেউ নয়। অর্থাৎ অন্যান্য team এর খেলোয়াড়রা এই Category থেকে বাদ পড়ে যাচ্ছে।

Types of questions:

এখন আমরা analytical ability section এর critical reasoning part এর প্রশ্নের প্রকারভেদ আলোচনা করব।

I) Assumption questions:

An assumption bridges the gap between an argument's evidence and conclusion.

অর্থাৎ, assumption বলতে আমরা argument এর সেই statement কে বোঝাব যেটা অনুপস্থিত থাকলে argument এর conclusion valid হবে না। অতএব, assumption question এ premise (s) থাকবে, একটি conclusion ও থাকবে। কিন্তু, লক্ষ্য করলে দেখা যাবে conclusion টি valid নয়, একটি premise যোগ করলে conclusion টি valid হয়। এই অনুল্লেখিত (unuttered) premise কে বলা হয় assumption বা Hidden premise আমরা নিচের উদাহরণটি লক্ষ্য করি।

Rumi plays basketball for I.B.A.
Therefore, Rumi must be over six feet tall.

বোঝাই যাচ্ছে, প্রথম Sentence টি premise এবং দ্বিতীয়টি conclusion. প্রশ্ন হচ্ছে, Conclusion টি কি valid?

Obviously NOT. Premise এবং Conclusion এর মধ্যে একটা ফাঁক রয়ে যাচ্ছে। আপনাদেরকে question করা হবে- এই ফাঁকটা কি? নিজেই বের করুন- আমরা তখনই Rumi কে Six feet এর উপর লম্বা বলতে পারব যখন আমরা জানব - **All basketball players of I.B.A. team are over six feet tall.** এটিই হচ্ছে প্রদত্ত argument এর assumption.

এই question টি বিভিন্ন ভাবে করা হতে পারে। যেমন-

Which one of the following does the author assume?

Upon which of the following assumptions does the author rely?
The argument depends on the assumption that-
Which one of the following, if added to the passage, will make the conclusion logical ?
The validity of the argument depends on which of the following?
The argument presupposes which of the following?

II) Strengthen or Weaken questions: Strengthen questions এর argument এ premise(s) এবং conclusion দুই-ই থাকে। এক্ষেত্রে conclusion টি valid-ও হতে পারে, আবার invalid-ও হতে পারে। যদি conclusion invalid হয়, তবে question টি assumption এর মত হয়ে যায়। অর্থাৎ hidden premise খুঁজে বের করে conclusion কে stronger করতে হবে। যদি conclusion valid হয় তবে আপনার কাজ হবে answer choice থেকে এমন একটি option খুঁজে বের করা যেটা সত্যি হলে প্রদত্ত conclusion এর দাবী আরও জোরালো হয়। নিচের উদাহরণটি দেখলে ব্যাপারটি পরিষ্কার হবে।

Riyad: Don't eat so much red meat. It's bad for health.
Amit: How can you say that? I don't weigh a pound more than I did a year ago.
Question: Which of the following would strengthen Riyad's argument?
a) ---------- b) ---------- c) ---------- d) ---------- e) ----------

দুজন ব্যক্তি কথা বলছেন। Riyad, Amit-কে বেশি red meat খেতে নিষেধ করল এবং বলল এটা স্বাস্থ্যের জন্য ক্ষতিকর। Amit এ কথাকে defend করার জন্য যে যুক্তি দাঁড় করাল তা হচ্ছে- তার weight গত এক বছরে এক pound-ও বাড়েনি। এখন আমাদের কাজ হচ্ছে এমন একটি statement খুঁজে বের করা যা Riyad এর দাবীকে জোরালো করে। একটু চিন্তা করুন। Answer choice দেয়া নেই (যদিও পরীক্ষায় দেয়া থাকবে), তাই নিজে answer develop করার চেষ্টা করুন।

আমরা যদি বলি, Putting on weight is not the only harmful effect of eating red meat (অর্থাৎ, weight বাড়াই red meat খাওয়ার একমাত্র ক্ষতিকর effect নয়, অন্যান্য ক্ষতিকর effect ও থাকতে পারে) তাহলে কি Riyad এর argument (Eating too much red meat is harmful for health) এর claim জোরালো হচ্ছে না ? অবশ্যই হচ্ছে।

এভাবেই আমাদের strengthen question এর answer করতে হবে।

Strengthen questions এর language ও বিভিন্ন রকম হতে পারে-
Which one of the following, if true, would most strengthen the argument?
Which one of the following, if true, would provide the best support for the conclusion in the argument above?
The argument above would be more persuasive if which one of the following is found to be true?
The conclusion would be more properly drawn if it were made clear that –

Weaken questions এর ব্যাপারটা ঠিক উল্টো।

One way to weaken an argument is to break down a central piece of evidence.
Another way is to attack the validity of any assumption the author must be making.

অর্থাৎ weaken questions এর ক্ষেত্রে আমাদেরকে লেখকের বক্তব্যকে আক্রমণ করতে হবে। লেখক যা prove করতে চাচ্ছেন তার against এ কোন একটা logic উপস্থাপন করতে হবে। এক্ষেত্রে প্রথমেই আমাদের কাজ হবে argument এর conclusion খুঁজে বের করা। তারপর চেষ্টা করব কিভাবে ঐ conclusion এর claim টাকে দুর্বল করা যায়।

"Monjur did not go to the university. So it must be Friday".

অর্থাৎ যেহেতু Monjur versity -তে যায়নি, তাই এটি শুক্রবার। Argument এর দ্বিতীয় অংশটি এক্ষেত্রে Conclusion. এই Conclusion -কে বিভিন্নভাবে খন্ডন করা যায়। আমরা বলতে পারি- (i) Monjur was sick; (ii) Monjur has a class on Friday; (iii) Monjur does not have any class on both Friday and Saturday ইত্যাদি।

উপরোক্ত তিনটি Statement এর যে কোন একটি answer choice এ থাকলেই আমরা সেটাকে answer হিসেবে pick করব। প্রথম statement অনুসারে Monjur এর versity তে না যাবার আরেকটি reason পাওয়া যাচ্ছে, সুতরাং আমরা Conclusion

দিতে valid বলতে পারি না। দ্বিতীয় statement এ বলা হচ্ছে শুক্রবার Monjur-এর class থাকে। এক্ষেত্রেও conclusion টি invalid. তৃতীয় statement এ বলা হচ্ছে, শুক্রবার ও শনি দুদিনের একদিনও Monjur-এর class থাকে না। সুতরাং conclusion বের করার সময় নিশ্চিত হয়ে বলা যায় না যে, দিনটি শুক্রবার-ই ছিল।

Weaken question এর বিভিন্ন question stem নিচে দেখানো হলো-

Which of the following, if true, would most weaken the argument above?

Which of the following, if true, would most seriously damage the argument above?

Which of the following, if true, casts most doubt on the argument above?

Which of the following is a criticism of the argument above?

Which of the following indicates a major flaw in the conclusion drawn above?

Which of the following would be a logical contradiction of the argument above?

iii) **Inference Questions:** The process of inferring is a matter of considering one or more statements as evidence and then drawing a conclusion from them.

অর্থাৎ, এ ধরনের প্রশ্নে কিছু evidence বা ঘটনা দেওয়া থাকে, আমাদের কাজ হবে এসব evidence বা ঘটনা থেকে একটি সিদ্ধান্তে পৌঁছানো। Assumption এবং inference এর পার্থক্য হচ্ছে- একটি Conclusion এর Validity যেমন assumption এর উপর depend করে, inference এর ক্ষেত্রে তা হয় না। A valid inference is merely something that must be true if the statements in the passage are true; it's an extension of the argument rather than a necessary part of it. অর্থাৎ inference একটি argument এর আবশ্যকীয় কোন অংশ নয়; বরং argument এর বক্তব্যকে true ধরে নিয়ে আমরা প্রদত্ত answer choices এর যে statement টিকে logical বলতে পারি, তা-ই হচ্ছে inference.

নিম্নের উদাহরণটি ব্যাপারটিকে পরিষ্কার করবে।

Anis plays cricket for the I.B.A team despite the team's rule against the participation of non-IBA students.

অর্থাৎ 'IBA-র ছাত্ররা ছাড়া আর কেউ অংশ নিতে পারবে না'- এই নিয়ম থাকা সত্ত্বেও নাসিম I.B.A টিমের হয়ে ক্রিকেট খেলে।

প্রশ্ন হচ্ছে, What can you infer from the above argument?

আমরা উপরের argument থেকে clearly বলতে পারি - Anis I.B.A-র ছাত্র নয়।

Inference: Anis is not a student of I.B.A.

Inference question এর রকমভেদ হতে পারে এরকম-

What can be inferred from the argument above?

Which of the following is implied by the argument above?

The author suggests that-

If all the statements above are true, which one of the following must also be true?

The author would most likely agree with which one of the following?

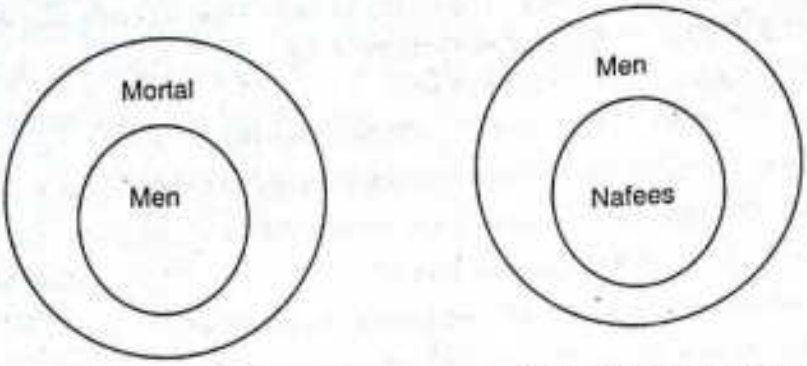
Some special Techniques and Tips:

Using Venn Diagrams: Example এর মাধ্যমে আমরা ব্যাপারটা বোঝার চেষ্টা করব। Let's take a simple argument.

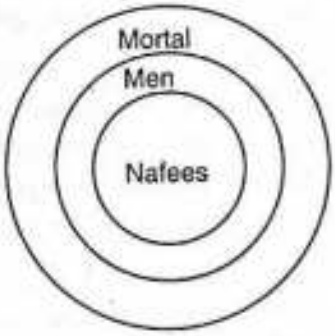
"All men are mortal. Nafees is a man. Therefore, he must be mortal."

আমরা এখন উপরোক্ত argument এর প্রত্যেকটি component এর জন্য একটি circle তৈরী করব। এই argument এ তিনটি প্রধান উপকরণ আছে - Men, mortal and Nafees.

আমরা argument এর প্রথম ও দ্বিতীয় statement অর্থাৎ premises দুটি থেকে নীচের Circle দুটি আকতে পারি।

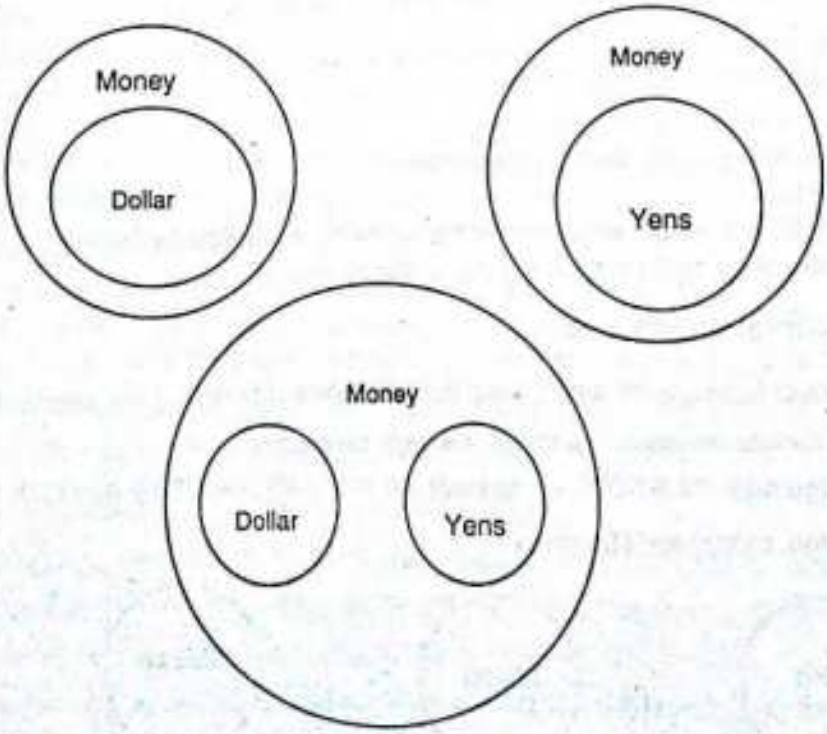


এখন উপরের দুটি circle থেকে আমরা deductive conclusion-এ পৌছাতে পারি- Nafees is mortal.



আরেকটি example দেখুন-

"All dollars are money. All yens are money. Therefore, all dollars must be yens".



That's all what we get. সুতরাং Venn diagram থেকে এটা পরিষ্কার যে, argument এর conclusion-টি INVALID. Both dollars and yens are included in the money circle but we cannot conclude that all dollars are yens or vice versa.

একটু জটিল ধরনের কিছু Critical reasoning questions solve করার জন্য Venn diagram বেশ কার্যকর।

Avoiding generalization: Critical reasoning questions solve করার জন্য সবসময় generalization avoid করতে হবে। Lets consider the following example.

"Tariffs on textiles benefit the textile industry. Tariffs on steel benefit the steel industry."
So tariffs always benefit all the industries.

ব্যাপারটা এরকম হয়ে গেল আমি একজন লোককে চিনি যার বাড়ী 'অমুক' জায়গায় এবং লোকটি খারাপ। আমি আরও একজন লোককে চিনি যার বাড়ী ঐ একই জায়গায় এবং সে-ও লোক ভাল নয়। সুতরাং আমি সিদ্ধান্ত নিলাম, 'অমুক' জায়গায় সব লোকই খারাপ। Absurd ! একটি, দু'টি বা অনেক example দিয়ে আমরা কখনও পুরো একটি এলাকার সব লোককে খারাপ বলতে পারি না।

একইভাবে, প্রদত্ত argument-এ দুটি industry tariff এ উপকৃত হয়েছে বলে আমরা conclude করতে পারি না যে সব industry-ই এতে উপকৃত হবে। এই ভুলটিকেই বলে generalization.

Using Four-step Approach: Critical reasoning questions answer করার জন্য আমরা একটি four-step approach follow করতে পারি। Step গুলো নিম্নরূপ :

1. Preview the question stem: প্রথমে argument না পড়ে stem পড়া উচিত অর্থাৎ আমাদের আগেই জেনে নেয়া ভাল what we have to do -আমাদের কি infer করতে হবে, নাকি assume করতে হবে, নাকি weaken বা strengthen করতে হবে।

2. Read the stimulus: এবার আমরা given passage টা পড়ব। Read the passage actively and critically. Also get a sense for how strong or weak the argument is.

3. Try to pre-phrase an answer: Questions stem এবং stimulus পড়ার পর অধিকাংশ ক্ষেত্রেই আমাদের মনের মধ্যে একটি obvious answer develop করবে। অন্যান্য ক্ষেত্রে answer সম্বন্ধে একটা general idea মাথায় আসবে। যাই হোক না কেন, নিজে নিজে একটা answer assume করতে পারলে কাজ অনেকটাই সহজ হয়ে যায়।

4. Choose an answer: Answer pre-phrase করতে আপনি যদি successful হন, তাহলে আপনার কাজ হবে answer choices থেকে সেই answer টি খুঁজে বের করা, which sounds like what you have in mind. যদি এরকম কোন choice খুঁজে না পান, নিজের logic টা আবার একটু ঝালিয়ে নিন। তাতেও যদি না হয়, You should go back to the question stem to make sure that you're indeed answering the question that was asked.

আমরা আমাদের critical reasoning সম্পর্কিত critical আলোচনার শেষ পর্যায়ে। কোন argument inductive বা কোনটা deductive সেটা বের করা আসল কাজ নয়- আসল কাজ হচ্ছে আপনার logic এ কোন খুঁত আছে কিনা তা বের করা। If you are sure of an answer, go for it.

আমরা দুটি example দিয়ে critical reasoning question কিভাবে solve করতে হবে তার কিছুটা ধারণা দেয়ার চেষ্টা করছি। এই example দুটি ভালভাবে পর্যবেক্ষণ করুন। তাহলে critical reasoning এর concept develop করবে।

Example দুটির পরে একটি practice exercise আছে। Review Chapter টি প্রথমে ভালমত পড়ে নিন, তারপর exercise গুলো solve করার চেষ্টা করুন।

Exercise solve করার আগে দুটি solved example দেখে নিন। Exercise গুলোর শুধু answer দেয়া আছে।

Example – 1

All good athletes want to win. All athletes who want to win eat a well-balanced diet. Therefore- all athletes who do not eat a well-balanced diet are bad athletes.
If the assumptions of the argument above are true, then which of the following statements must also be true?

A) No bad athlete wants to win.
B) No athlete is a good athlete who does not eat a well-balanced diet.
C) Every athlete who eats a well-balanced diet is a good athlete.
D) All athletes who want to win are good athletes.
E) Some good athletes do not eat a well-balanced diet.

Question এ যে argument দেয়া আছে সেটি valid সুতরাং আমরা এখন Denial process (Process of elimination) follow করতে পারি। Argument টির conclusion হচ্ছে- যেসব athlete well-balanced diet খায়না তারা অবশ্যই bad athlete. সুতরাং choice (E) কে সরাসরি বাদ দেয়া যায়। Argument এ বলা আছে- All good athletes want to win, কখনোই বলা হয়নি All those who want to win are good athletes. সুতরাং choice (D) এবং (A) বাদ পড়ে যাচ্ছে। Argument এ বলা আছে good athlete হতে হলে well-balanced diet খেতে হবে। That does not mean well-balanced diet খেলেই আপনি good athlete হয়ে যাবেন। সুতরাং answer choice (C) ও বাদ। বাকী রইল (B) This choice is actually rephrasing the argument's conclusion. Therefore, the answer is (B).

Example – 2

If you present a purple pass, then you can enter the compound.
If the statement above is true, which of the following must also be true?

i) If you do not present a purple pass, then you cannot enter the compound.
ii) If you could enter the compound, then you must have presented a purple pass.
iii) If you cannot enter the compound, then you did not present a purple pass.

A) I only (B) II only (C) III only (D) I and II (E) I, II and III.

ব্যাপারটা হচ্ছে- If P, then Q (এক্ষেত্রে P = purple pass, Q=entering the compound) অর্থাৎ P ঘটলে Q ঘটবে। কোথায় বলা নেই যে, P না ঘটলে Q ঘটবেনা। সুতরাং আমরা ধরে নিতে পারি যে, P একা Q এর Prerequisite (পূর্বশর্ত) নয়। R, S, U, etc ঘটলেও Q ঘটতে পারে (এক্ষেত্রে R, S, U প্রভৃতি হচ্ছে অন্য color এর pass বা pass ছাড়া অন্য কোন কাগজপত্র)। সুতরাং আমরা choice (A) এবং (B) বাদ দিয়ে দিতে পারি।
The answer is (C). Actually, "If P, then Q" এটা থেকেই বোঝা যায় যে, 'If no Q, then there must be no P" (অর্থাৎ আপনি যদি compound এ ঢুকতে না পেরে থাকেন, তাহলে আপনার কাছে Purple pass ছিল না।)

SUMMARY TO APPROACH CRITICAL REASONING PROBLEMS:

As we indicated earlier, the difficulty with the Logical Reasoning question is that there is such a variety of question stems that it is difficult to provide a mechanical procedure for approaching such problems. The following tips, however, may help make our somewhat abstract discussion of logic easier to apply to actual problems.

The first point of attack in the logical reasoning question is to read the question stem *(the part to which the question mark is attached)* before reading the paragraph or sample argument. The reason for this suggestion is easily explained.

There are many different questions that one might ask about an argument: "How can it be strengthened?" "How can it be weakened" "What are its assumptions?" "How is the argument developed?"..... and so on. If you read an argument without focusing your attention on some aspect of it, all of these aspects of argumentation (and even more) are likely to come to mind.

Unfortunately, this is distracting. The most efficient way to handle the Logical Reasoning questions is to read the stem of the question first. Let that guide you in what to look for as you read.

Find the conclusion. This is always helpful, even when it is merely a descriptive statement. Keep in mind the importance of finding the exact conclusion for structuring the argument and assessing its strengths or weaknesses.

ATTACK THE ANSWER CHOICES

The differences between the answer choices often help you isolate the issues in the problem. Attack the answer choices by:

1. only focusing on the issues discussed in the question
2. always reading all the answer choices
3. eliminating obviously incorrect choices
4. contrasting remaining choices to isolate the relevant issues

Remember that you are only trying to choose the best answer. The best is often not perfect, and the less than best or incorrect answers often have some merit.

While solving critical reasoning questions, It is very important that you try to understand whether there is any loophole in your claim or not. IBA admission test may contain a mixture of both critical & normal problems. It's your IQ that will lead you to a good score in this section.
Best of Luck!

PRACTICE EXERCISE

1. Riyad must be a cricketer. I saw him with a cricket bat.
The conclusion above is valid only if it is true that:
A) Cricket players often hold cricket bats.
B) All cricketers hold cricket bats.
C) Cricketers never hold any kind of bat other than cricket bat.
D) Cricketers are required to hold cricket bats.
E) Only cricketers hold cricket bats.

2. I am afraid that Suzana will never be an outstanding actress again. Last month she burnt her face and the doctors failed to cure that.
The argument above is based upon which of the following assumptions?
1. One must have unburnt face to act.
2. How well a person acts may be influenced by the condition of her face.
3. Unburnt face is a must for a professional acting career.
(A) 1 only (B) 2 only (C) 1 & 2 only
(D) 2 & 3 only (E) All of these

3. Department stores range from two to eight floors in height. If a department store has more than three floors, it has an elevator.
If the above statements are true, then which of the following statement must also be true?
(A) Second floors do not have elevators.
(B) Seventh floors have elevators.
(C) Only floors above third floor have elevators.
(D) All floors may be reached by elevators.
(E) Some two-floor department stores do not have elevators.

Questions 4 - 5 are based on the following passage

A church found that their facilities were too small to accommodate the crowd for a special two-day religious service. They received a license to use the public park, and a public address system was promptly installed. Citizens who were not members of that church protested the action of the park Department for having issued this license.

4. What is the best argument used by the church to retain its license?
A) Wide publicity had already been made to announce the location of special service.
B) The public address system was installed at great expense.
C) The church is a local taxpayer.
D) The park had been used before by religious organization for rallies, concerts and meetings.
E) No one would be excluded from entering the park during the service.

5. What is the best argument used by the citizens who protested the action by the Park Department?
A) Freedom of speech was violated.
B) Citizens would be denied the enjoyment of the public park during these two days.
C) There would be a violation of the noise-level standards.
D) A public referendum should have been held.
E) The town would incur expenses to clean up the park after the two-day service.

Questions 6 - 7 are based on the following:

In 1978, Thomas Malthus published "Essay on Population" in which he postulated that food supply can never keep pace with the rate of increase in human population.

6. Which of the following statements, if true, would tend to weaken Malthus's argument?
I) The total population of humans has risen at a rapid rate partly because of the removal of natural checks on population.
II) In many nations, the increase of human population has far outstripped the food-producing capacity.
III) Human population growth may be halted by the use of contraception.
IV) For many ethnic and religious groups, artificial control of conception is morally unacceptable.
A) I only (B) I and II (C) II only (D) I and IV (E) III only

7. Which of the following would be most likely to help limit the demand placed on food supplies?
A) wars
B) conservation of natural resources
C) better farming methods
D) better international relationships
E) improved disease control

8. An organization claims that their operation in the area resulted in significant poverty reduction during the last two years.

Which of the following statements would weaken the argument above most?
(A) Borrowing per family increased significantly during the same period.
(B) Roads and other infra-structural facilities increased significantly during the period.
(C) People in the area became more vulnerable to diseases.
(D) Poverty in other areas where the organization has no operation also declined by same percentage.
(E) The average number of non-earning members in family increased significantly during the period.

9. Ferdous: Auntu has become a much better singer since she started meditating.
Sishir: Impossible. A singer's most important asset is his or her nice voice.
Sishir's statement implies that he believes that:
A) Meditation tends to make a person's voice better.
B) Meditation has little or no effect on the person who practices it.
C) Auntu was a poor singer previously, because she did not have nice voice.
D) Auntu has not really been meditating.
E) Mental attitude has little or nothing to do with a singer's effectiveness.

10. Talha is over six feet tall.

The statement above can be logically deduced from which of the following statements?
A) The average height of the members of the basketball team is over six feet. Talha is the center on the basketball team.

B) If Talha was not asked to join the basketball team, then he is not over six feet tall. Talha was not asked to join the basketball team.

C) If Talha is over six feet tall, he can see the parade. Talha can see the parade.

D) In Dr. Khairul's seminar, everyone who is not over six feet tall is seated in the first row. Dr. Khairul seated Talha in the second row.

E) Everyone who is over six feet tall has to help stack cartons in the stockroom. Talha helps stack cartons.

11. Riyad: I wish you wouldn't drink so much beer. It's bad for your health.
Amit: How can you say that? I don't weigh a pound more than I did a year ago.
Which of the following responses would most strengthen Riyad's argument?
A) You weigh ten pounds more than you did six years ago.
B) Most people who drink a lot of beer do put on weight.
C) If you keep drinking so much beer, you will soon put on weight.
D) Putting on weight is not the only harmful effect of drinking beer.
E) You can put on weight in other ways than by drinking beer.

12. Bobby: 'Only general council members sit on the president's cabinet.'
Borsha: 'That's not true; Dr. Rab is a general council member and he is not on the president's cabinet.'
Borsha's response implies that she misinterpreted Bobby's statement to mean that:
A) All cabinet members are on the general council.
B) Dr. Rab sits on the president's cabinet.
C) All members of the general council sit on the president's cabinet.
D) No general council members are on the president's cabinet.
E) None of the above.

13. Abdul: I want to stay out of Mr. Mofiz's classes if I can. I have heard that he is very strict so far the grades are concerned.
Kuddus: That's not true. My friend took his class last year and he gave him an A.
From the conversation above it can be inferred that Kuddus interpreted Abdul's statement to mean that Mr. Mofiz:
A) makes unfair demands on his students.
B) only gives good grades to a fewer favored students.
C) has become increasingly strict over the past year.
D) gives out fewer good grades than most teachers in the department.
E) never gives out grades of A.

14. Television convinces viewers that the likelihood of their becoming the victim of a violent crime is extremely high; at the same time, by its very nature, television persuades viewers to passively accept whatever happens to them.
The argument above leads most logically to the conclusion that
A) people should not watch television
B) television promotes a feeling of helpless vulnerability to its viewers.
C) television viewers are more likely to be victimized than other persons.
D) the content of television programs should be changed to avoid fostering the attitudes mentioned.
E) television viewing promotes criminal behavior.

15. Javed: I just heard that Mini flunked out of college.
Hasan: That can't be true; she got straight A's in high school.
From the conversation above, it can be inferred that:
A) Hasan thinks Javed is lying.
B) Hasan assumes that no one who got straight A's in high school can be flunked out of college.
C) Javed thinks Mini has flunked out of college.
D) Hasan thinks Mini is still in college.
E) Javed is sure that Mini flunked out of college.

16. A meadow in springtime is beautiful, even if no one is there to appreciate it.
The statement above would be a logical rebuttal to which of the following claims?
A) People will see only what they want to see.
B) Beauty is only skin deep.
C) There's no accounting for taste.
D) Beauty exists only in the eye of the beholder.
E) The greatest pleasure available to mankind is contemplation.

17. Since it is possible that substances contained in certain tree roots may provide a cure for cancer, the government must provide sufficient funds to allow thorough testing of this possibility.

The argument above assumes that:
A) Substances contained in certain tree roots will probably cure cancer.
B) The line of research mentioned offers at present the most promising possibility for finding a cure for cancer.
C) The possibility of finding a cure is sufficient reason for funding research into possible cancer cures.
D) A cure for cancer would be extremely valuable for society.
E) The government is the only possible source of funds for the research described.

Questions 18 - 19 are based on the following information:

All students who major in philosophy wear Lee jeans.
None of the students of the Mentors' wears Lee jeans or majors in history.
If Monjur majors in philosophy, Shanto majors in history.

18. If the statements above are all true, which of the following must also be true?
A) If Monjur majors in philosophy, Shanto does not wear Lee jeans.
B) None of the students of Mentors' majors in philosophy.

C) If Monjur wears Lee jeans, he majors in philosophy.
D) If Shanto majors in history, Monjur is not in the Mentors'.
E) Either Monjur or Shanto wears Lee jeans.

19. The conclusion 'Monjur does not major in philosophy' could be validly drawn from the statements above if it were also established that:
i) Shanto does not major in history.
ii) Monjur does not belong to Mentors'.
iii) Monjur does not wear Lee jeans.
A) i only (B) ii only (C) iii only (D) i and iii only (E) ii and iii only

20. Spokesman for a chemical company to residents of a nearby town: "We have conducted tests and have found no evidence that the fumes leaking from our waste disposal site are harmful to humans. There is no reason to be alarmed. People can safely stay in their homes."
Which of the following would be the least relevant question for the head of the residents committee to direct to the chemical company spokesman?
A) What steps are being taken to correct the situation?
B) Are further tests being conducted?
C) How much will it cost you to stop the leaks?
D) Do the fumes have an adverse effect on plants or animals?
E) What are the possible long-term effects of exposure to the fumes?

21. But the number of flights has increased by 30% in the last ten years.
The statement above would be logical rebuttal to which of the following claims?
A) The airlines must be losing money. The cost of jet fuel has tripled in the last ten years.
B) Airline ticket prices have increased so much in the last year that some people who could afford to fly before no longer can.
C) Flying is getting more unsafe. The number of airplane accidents per year had increased by over 10% in the last decade.
D) More air travelers are taking short trips, commuter flights. The average number of miles traveled per flight had decreased by 20% in the last ten years.
E) The flight industry is being taken over by a few large airlines. There are 25% fewer airlines today than there were ten years ago.

Questions 22 - 23 are based on the following information:

If Dr. Mimi's theory is correct, then the events she predicts will happen. The events she predicted did happen. Therefore, her theory must be correct.

22. Which of the following arguments has a logical structure that most nearly resembles that of the argument above?
A) If we win the game, we will be the league champions. We won the game; therefore, we are the league champions.
B) If the fan is running, then the electricity must be on. The electricity is on; therefore, the fan must be running.
C) If the store is open, I will buy a shirt. I think the store is open; therefore, I should be able to buy a shirt.
D) If Farah answers her phone, then my prediction is correct. I predict that she is at home; therefore, she will answer the phone.
E) If Rupu's flight is delayed, he will miss his appointment. He kept his appointment; therefore, his flight must have been on time.

23. The conclusion above would be valid if which of the following were true?
A) Only Dr. Mimi's theory full explains the events that happened.
B) If the events Dr. Mimi predicted happen, then her theory is correct.
C) If Dr. Mimi's theory is correct the events she predicted may happen.
D) Only Dr. Mimi predicted the events that happened.
E) If the events Dr. Mimi predicted happen, then her theory may be correct.

24. Leafleting and speechmaking on government property should be outlawed. Radicals and fanatics have no right to use public property when peddling their unsavory views.
The argument above is based on the assumption that:
A) Radicals and fanatics prefer using public property when disseminating their views.

B) Legal restrictions that apply to one group need not apply equally to all.
C) The general public has a vested interest in the free exchange of varied political views.
D) Political activity that interferes with the orderly functioning of government should not be protected by law.
E) All those who leaflet and make speeches on government property are radicals and fanatics.

Questions 25 - 26 are based on the following:

Large mammals are not common in desert regions. Small animals such as the Kangaroo, rat have special adaptations for water conservation. Their kidney tubules are able to extract water from dry seeds.

25. An important exception to this statement is the case of the
A. Kangaroo B. Opossum C . Camel D. Snake E. Cactus

26. The statement makes it clear that survival depends upon
A. food B. temperature C. soil D. water E. sun

27. The new English film "Brave Heart", the historical movie of a heroic character, is clearly the best foreign film of the year, since the box office receipts show that even more people are going for the movie than "Aguner Parashmoni", a highly acclaimed Bangladeshi film on similar theme. The argument above is based on which of the following assumption?
A) "Aguner Parashmoni" is the best Bangladeshi film.
B) Foreign films should be judged by the same standards used for Bangladeshi films.
C) Foreign films should be judged by standards different from those used for Bangladeshi films.
D) Historical stories make best films.
E) The quality of a film can be measured by the number of people who go to see it.

28. Excessive amount of mercury in drinking water, associated with certain types of industrial pollution have been shown to cause Hobson's Disease. Island Hatia has an economy based on subsistence level agriculture, modern industry of any kind is unknown. The inhabitants of Hatia have an unusually high incidence of Hobson's Disease. Which of the following can be validly inferred from the above statements?
1) Mercury in drinking water is actually safe.
2) Mercury in drinking water must have other sources than industrial pollution.
3) Hobson's Disease must have causes other than mercury in water.

(A) 2 only (B) 3 only (C) 1 or 2 but not both
(D) 2 or 3 but not both (E) 2 or 3 or both.

Questions 29 - 30 are based on the following:

A class was divided into two equal groups. One group was given toothpaste containing fluoride and the other was given toothpaste without fluoride. Public funds were used to supply each student with a sufficient supply of toothpaste for the entire school year. The group using the fluoride toothpaste had fewer tooth cavities at the end of the year.

29. The results of this experiment would be more valid if:
I) Greater number of pupils was used.
II) Provision was made of check on faithful daily use of the toothpaste.
III) New toothbrushes were supplied.
IV) A control group was provided.
(A) only I (B) only II (C) only IV (D) I and II (E) II and III

30. The results of this class experiment could be used to demonstrate the
I) value of water fluoridation.
II) difficulties and problems involved in conducting scientific research.
III) value of regular use of the toothbrush.
IV) need for public support to conduct scientific research.
(A) only I (B) only II (C) I and II (D) only III (E) I, II, III and IV.

Questions 31 – 35 are based on the following passage:

When a farmer cultivates his land with an investment of $X for machinery, fertilizer, and labor; his average yield per dollar of investment is 10 bushels of potatoes. Thd next year he doubles his investment of labor and capital on the same land and he finds that his yield per dollar of investment is 15 bushels of potatoes. The next year he doubles that investment and his yield per dollar of investment is 12 bushels per dollar of investment.

31. The increase in yield per dollar of investment during the 2nd year was most probably due to
(A) Better, more expensive equipment (B) More efficient use of all available soil
(C) Greater incentive to farm workers (D) Better supervision of larger labor force
(E) Greater efficiency because of higher salaries

32. What accounts for the decrease in yield per dollar during the third year?
(A) Bad weather reduces profits regardless of efficiency
(B) Poor irrigation with crowded crops reduces the size of a crop
(C) The limit of efficiency per unit of land was reached
(D) Increased costs of production decreased proportionate yield
(E) Inflation was a factor

33. The situation in this passage illustrates the fact that-
(A) farmers must receive Federal subsidies
(B) increasing capital investment results in lower cost of production per unit of product
(C) there is a point in investment when a greater total yield results, but after that point the increased yield is proportionately less
(D) many factors influence profitable farming
(E) there is a limit to profit in agriculture

34. Better yield per dollar of investment could best be accomplished in the fourth year by increasing:
(A) The amount of farm equipment (B) The labor force (C) The use of fertilizers
(D) The amount of land cultivated (E) any of these

35. Which of the following could increase the farmer's profit?
I. Rise in selling price of farm product
II. Use of modern agricultural method
III. Greater use of cheap, unskilled labor
(A) Only I (B) Only II (C) I and II (D) II and III (E) I, II, III

Question 36 - 37 are based on the following information:

The average life expectancy for the whole population of Bangladesh is about 60.5 years but children born in Cox's Bazar will have an average life of about 67 years and those born in Dhaka is 58 years. If a new couple decides to settle in Cox's Bazar, it is expected that their children would live longer than that if the family decides to live in Dhaka.

36. Which of the following, if true, will most seriously weaken the conclusion drawn in the passage?
(A) Statisticians do not believe that moving to Cox's Bazar will significantly lengthen the average life expectancy.
(B) It is falsely alleged that statistics of life expectancy of Dhaka are inaccurate.
(C) The life expectancy of current population of Cox's Bazar is mostly attributable to genetic factors.
(D) Forty percent of the population of Dhaka can expect to live longer than 67 years.
(E) The level of pollution in Cox's Bazar is well below than that in Dhaka.

37. Which of the following statements, if true, will most significantly strengthen the conclusion drawn in the passage?

(A) As population density increases in Cox's Bazar, life expectancy figures are likely to be revised downward.
(B) Environmental factors tending to favor longevity are more abundant in Cox's Bazar than those are in Dhaka.
(C) 30% of those who move to Cox's Bazar from Dhaka live longer than 67 years.
(D) Over the last decade, life expectancy in Dhaka has risen considerably.
(E) Studies show that the average life of those who move permanently to Dhaka from Cox's Bazar is roughly equal to the average life of those who remain in Cox's Bazar.

38. Average family income is right where it was 20 years ago, even though in most families these days, husbands and wives are working. This statement implies all of the following except:

(A) Even though nominal family income may have increased, inflation has risen at an equal rate.
(B) More husbands and wives are working today than 20 years ago.
(C) It was more prevalent for one spouse to work 20 years ago than today.
(D) Wives earn more than husbands today.
(E) The price level was lower 20 years ago.

39. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

(A) The balance of opinion is likely to favor Patria in the event of a blockade.
(B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.
(C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.
(D) Any trade embargo against Patria would be likely to fail at some time.
(E) For a blockade of Patria's ports to be successful, international opinion should not be unanimous.

40. The current two-digit inflation is unbearable to common people. This statement will be weakened by which of the following?

(A) Resources are accumulated by a small group of people.
(B) Income level of common people remains stable.
(C) The commoners have enhanced purchasing power than before.
(D) Government has imposed additional tax on low-income people.
(E) Additional fiscal incentives have been announced for high-income people.

41. In a television interview, the principal of a school claims that 75% of the scholars in the region were graduated from their institution. What is the hidden message the principal wants to convey to the public?

(A) All graduate of the school become great scholars after graduation.
(B) Only scholars take admission in the school.
(C) Only brilliant students take admission in the school.
(D) The school provides specialized education.
(E) The quality of education in the school is excellent.

42. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

(A) Industrial production also is declining in Country X.
(B) Whereas Country Y is landlocked, Country X has a major seaport.
(C) Both Country X and Country Y have been experiencing drought conditions.
(D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
(E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

43. In Los Angeles, a political candidate who buys saturation radio advertising will get maximum name recognition.

The statement above logically conveys which of the following?

(A) Radio advertising is the most important factor in political campaigns in Los Angeles.
(B) Maximum name recognition in Los Angeles will help a candidate to win a higher percentage of votes cast in the city.
(C) Saturation radio advertising reaches every demographically distinct sector of the voting population of Los Angeles.
(D) For maximum name recognition a candidate need not spend on media channels other than radio advertising.
(E) A candidate's record of achievements in the Los Angeles area will do little to affect his or her name recognition there.

44. Tareq and Auntu took five courses together but achieved the same grade in only one of the courses – Accounting. Each course was graded on a scale ranging from 60 to 100.
Which of the following statements allows one to determine whether the average of the grades Tareq achieved in the five courses was higher than the average of the grades Auntu achieved in those courses?

(A) Tareq's lowest grade was in Accounting, but Auntu's lowest grade was in Math.
(B) Auntu's highest grade was higher than Tareq's highest grade.
(C) Tareq achieved higher grades than Auntu in three courses.
(D) Tareq's lowest grade and Auntu's highest grade were the same.
(E) Auntu's lowest grade and Tareq's highest grade were for the same course.

45. "I am a sociable person and I do love hanging out with friends", says Riyad. Which of the following may not be true about Riyad?

(A) Riyad is a bachelor.
(B) Riyad has a lot of friends.
(C) Riyad invites his friends too often to spend time with him.
(D) Riyad makes friends easily when he meets people.
(E) Riyad is married.

46. In a swimming team, all Free-Style swimmers are Olympic winners. No blue eyed swimmer is an Olympic winner. All Olympic winners go on to lucrative professional careers.
If all the above statements are considered true, which of the following must also be true?

(A) All those who go to professional careers are Free-Style swimmers.
(B) Only Free-Style swimmers go on to professional careers.
(C) Some blue-eyed swimmers go on to lucrative professional careers.
(D) No blue-eyed swimmer is a Free-Style swimmer.
(E) Only blue-eyed swimmers don't go on to lucrative careers.

47. In a study on job applicants, two-fifth admitted to being at least little dishonest. However, the study may underestimate the proportion of job applicants, who are dishonest, because:

(A) some dishonest people participating this study might have claimed on the study to be honest.
(B) some generally honest people participating the study might have claimed dishonest.
(C) some people who claimed on the study to be at least a little dishonest are actually dishonest.
(D) some people who claimed on the study to be dishonest may have been answering honestly.
(E) some people who are not job applicants are probably at least a little dishonest.

48. It is important to teach students to use computers effectively. Therefore students should be taught programming in school.

Which of the following if true most weakens the argument above?

(A) Only people who use computer effectively are skilled at computer programming.
(B) Only people skilled at computer programming use computers effectively.
(C) Some people who use computers effectively cannot write computer programs.
(D) Some schools teach computers programs more effectively.
(E) None of the above.

49. In one Central Asian community, it is customary for both men and women to keep their hair cut extremely short. However, some of the bestselling items in the community market are beaded hair bands that work only with long hair.

Which of the following statements, if true, can best reconcile this apparent discrepancy?

(A) The store obtains its beaded hair bands from another Central Asian community where more residents have long hair.
(B) The quality of the beaded hair bands in the community market is superior to that of hair bands available elsewhere.
(C) The few residents in the Central Asian community who do have long hair tend to share hair bands with one another.
(D) The community market caters to a large number of Western tourists, many of whom have long hair.
(E) The quality of the beaded hair bands in the community market is roughly equivalent to the quality of beaded hair bands that can be purchased in other nearby community markets.

50. A child watching television experiences a procession of sights and sounds that flash from the screen just long enough for the eyes and ears to take them in. Unlike the pages of a book, which can be read as slowly or as quickly as the child wishes; television images appears with a relentless velocity that stunts rather than enhances the child's powers of imagination.

The view expressed above is based on an assumption. Of the following, which can best serve as that assumption?

(A) When allowed to choose a form of entertainment, children will prefer reading to watching television.
(B) A child's imagination cannot be properly stimulated unless the child has access both to television and to books.
(C) A child's imagination can develop more fully when the child is able to control the pace of its entertainment.
(D) Children should be taught to read as soon as they are able to understand what they see on television.
(E) A child's reaction to different forms of sensory stimuli cannot be predicted, since every child is different.

ANSWER KEYS

1. E	2. B	3. B	4. D	5. B	6. E	7. A	8. A
9. B	10. D	11. D	12. C	13. E	14. B	15. B	16. D
17. C	18. B	19. D	20. C	21. C	22. B	23. B	24. E
25. C	26. D	27. E	28. E	29. D	30. A	31. D	32. C
33. C	34. D	35. C	36. C	37. B	38. D	39. D	40. C
41. E	42. D	43. D	44. D	45. E	46. D	47. A	48. C
49. D	50. C						

DATA SUFFICIENCY

Data Sufficiency questions IBA এর BBA / MBA ভর্তি পরীক্ষায় মাঝে মাঝে আসে। এ ধরনের প্রশ্ন সাধারণত GMAT পরীক্ষার অনুকরণে করা হয় থাকে। Data sufficiency questions এ দুটো statement-এ আমাদেরকে কিছু Data দেয়া হবে। আমাদের কাজ হবে সেই Data দুটোর sufficiency (পর্যাপ্ততা) বিচার করা। এ ধরনের questions এর আগে কিছু Directions দেয়া থাকে answer choosing এ জন্য। Directions গুলো নিম্নরূপ ঃ

Directions : Each of the question below is followed by two statements labeled (i) and (ii). Analyze the information given in the statements (i) and (ii) and then mark the appropriate answer in your answer sheet. The alternative choices are explained below:

A) If statement (i) alone is sufficient to answer the question, but not statement (ii) alone.

B) If statement (ii) alone is sufficient to answer the question, but not statement (i) alone.

C) If (i) and (ii) together are sufficient to answer the question, but neither alone is sufficient.

D) If either of the statements (i) or (ii) alone is sufficient to answer the question.

E) Even two statements together are not sufficient to answer the question.

নিচের example এর সাহায্যে আমরা একটি data sufficiency question বোঝার চেষ্টা করব।

Example: A rectangular field is 40 yards long.
What is the area of the field?

i) A fence around the entire boundary of the field is 140 yards long.
ii) The field is more than 20 yards wide.

Explanation: আমরা জানি, rectangle (আয়তক্ষেত্রের) এর area (ক্ষেত্রফল) = length (দৈর্ঘ্য) × width (প্রস্থ)। প্রদত্ত সমস্যায় আমাদের length দেয়া আছে (40 yards)। অর্থাৎ area জানার জন্য আমাদের width বের করতে হবে। একবার চোখ বোলালেই বোঝা যায় যে শুধুমাত্র (ii) থেকে width বের করা অসম্ভব। কারণ, (ii) তে বলা আছে width 20 yards এর চেয়ে বেশী। এ থেকে actually কিছুই বোঝা যায় না। সুতরাং answer choice (B) এবং (D) বাদ। শুধুমাত্র (i) বিশ্লেষণ করলে আমরা দেখতে পাই, এখানে rectangular field টির perimeter (পরিসীমা) দেওয়া আছে 140 yards। পরিসীমা = ২ (দৈর্ঘ্য + প্রস্থ)= 2 x 40 + 2 প্রস্থ = 80 + 2x প্রস্থ

80 + 2 x প্রস্থ = 140

$\Rightarrow$ 2 x প্রস্থ = 60

$\Rightarrow$ প্রস্থ = 30

Actually, প্রস্থ (width) বের করার ঝামেলায় আপনাকে যেতে হবে না। আপনি যদি বুঝতে পারেন যে width বের করা সম্ভব, তাহলেই যথেষ্ট। কারণ, width বের করতে পারলেই আপনি area বের করতে পারবেন। আমাদেরকে area কত সেটা question করা হয়নি, rather করা হয়েছে আমরা area বের করতে পারব কিনা। সেটা বুঝতে পারলেই যথেষ্ট।

So the answer is (A)

Some General Tips and Tricks

1. Do not solve Data Sufficiency Problems: Always remember your aim is not to arrive at an answer (numerical or otherwise) but only ensure which of the given statements are sufficient to answer the question. Do not waste valuable time solving a problem; you are only to determine whether sufficient information is given to solve the problem.

2. Familiarize with the answer choices: No excuses: On Data Sufficiency, they're always the same! Know in the blink of an eye what choice C is. On test day, if you find that Statement 1 is insufficient, be able to cross out choices A and D without hesitation.

3. Takes notes efficiently: Each statement alone will be sufficient if both of the statements on their own contain all the information necessary to answer the question. The statements will be sufficient together if they contain every piece of necessary information between them. Take the area of a parallelogram: Do you need to know every side length to determine the area? If you have every side length, can you find the area?

4. Don't look at the statements together: Statement 2 may tell you that x is negative, but that fact has no bearing on Statement 1 when viewed by itself. Explore all the possibilities offered by each statement individually. If you've scrutinized Statement 1 and found it sufficient, be equally merciless when it comes to Statement 2.

5. Watch out for important information: Don't pay so much attention to the statements that you forget the rest of the question. Often, half the information that you need is in the set-up.

6. Know when to solve single-variable equations: If the question asks for the value of x and you whittle the problem down to an equation like $305x = 2\ (500) - 10205$, don't waste your time solving for x! It's only important to know that you COULD solve if you wanted to. Remember, all linear one-variable equations have a unique solution, but quadratic equations (equations with an x^2 term) can have zero, one, or two solutions.

7. Know when it's necessary to solve a system of equations: Again, you never need to solve a DS problem—you only need to know that you could. A system of an independent linear equations with n variables can be solved for ALL of the n variables. The key word here is "independent": Equations are independent if they're not multiples of one another. For example, $y = 2x$ and $3y = 6x$ are NOT independent equations because the second equation is just three times the first.

8. Study prime factorizations and divisibility: Although any math concept is fair game on the DS section, prime factorization shows up frequently and reliably. If x is divisible by 15, will x^2 be divisible by 27? What about x^3?

9. Study overlapping sets: Be comfortable representing these overlapping sets with Venn diagrams. This topic is a DS favorite. A statement like, "The number of widgets that were not made in Factory A or Factory B is three times greater than the number of widgets that were made in Factory B" can be difficult to unpack in the heat of the moment. Train yourself to answer questions about sets methodically and quickly.

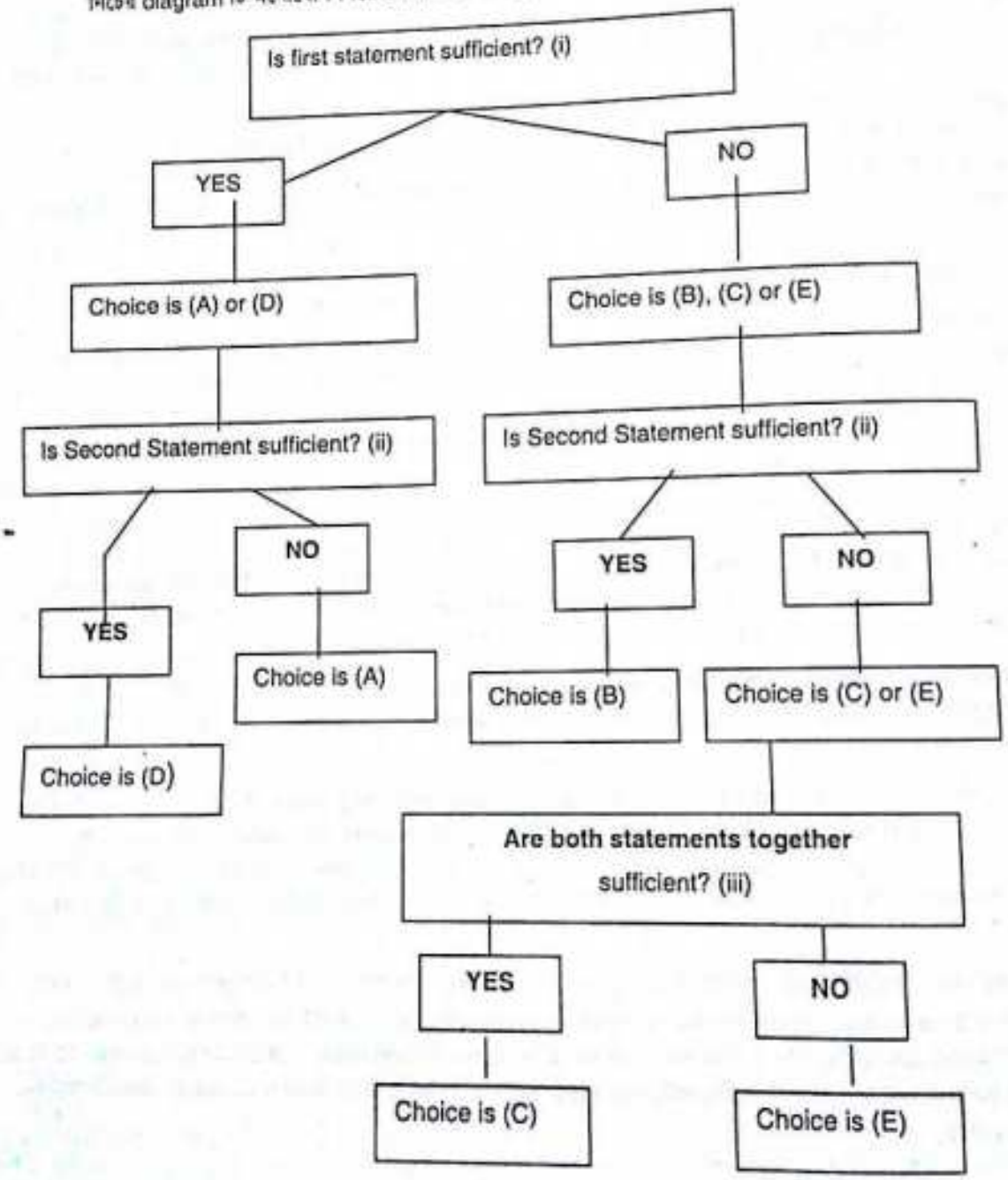
10. Two values are not sufficient: Remember that when you are determining whether there is sufficient information to answer a question of the form, "What is the value of y?" the information given must be sufficient to find one and only one value for y. Being able to determine minimum or maximum values or an answer of the form $y = x + 2$ is not sufficient, because such answers constitute a range of values rather than "the value of y."

How to Proceed: As a general rule, চেষ্টা করুন Directions এর sequence (ধারা) মেনে চলতে। প্রথমে (i) এর sufficiency try করুন, যদি answer হয় yes, তাহলে (A) বা (D) হবে answer, Now, if the answer to (ii) is yes, the choice must be (D), and if the answer to (ii) is no, the choice must be (A).

যদি (i) try করার পর answer আসে no, then the only possible choices are (B), (C) or (E). এখন, if the answer to (ii) is yes, then the choice must be (B) and if the answer to (ii) is no, the choice must be (C) and (E).

এরপর দেখতে হবে (i) + (ii) মিলে answer দেয়া possible কিনা। যদি possible হয়, তবে answer (C); আর যদি possible না হয়, তবে answer হচ্ছে (E).

নিচের diagram টি মনোযোগ দিয়ে বোঝার চেষ্টা করুন। তাহলে process টা clear হয়ে যাবে।



PRACTICE EXERCISE

Instruction: **Mark the appropriate answer as per the following conditions.**

(A) Statement (1) alone is sufficient, but statement (2) is not sufficient to answer the question.
(B) Statement (2) alone is sufficient, but statement (1) is not sufficient to answer the question.
(C) Both statements together are sufficient, but neither statement alone is sufficient to answer the question.
(D) Each statement alone is sufficient to answer the question.
(E) Even statement (1) & (2) together are not sufficient to answer the question.

1. Did Riyad go to the beach yesterday?
   1) If Riyad goes to the beach, he will be sunburned the next day.
   2) Riyad is sunburned today.

2. Is 10 the average of a, b and 10?
   1) $a + b = 20$ 2) $a - b = 4$.

3. How much does Auntu weigh?
   1) Auntu and Sibat together weigh 252 pounds.
   2) Sibat weighs thrice as much as Auntu.

4. Is X/20 an integer?
   1) X/4 is an integer 2) X/5 is an integer.

5. Is Seba older than Musa?
   1) Shiela is four years younger than Seba and two years younger than Musa.
   2) The average of Seba's age in years and Musa's age in years is 17.

6. If a, b and c are consecutive integers, is b even?
   1) $a < b < c$ 2) ac is an odd integer.

7. How many students are enrolled in Professor Matin's history class?
   1) If three more students sign-up for the class and none drop out, more than 35 students will be enrolled in the class.
   2) If four students drop out of the class and no more sign-up, fewer than 30 students will enrolled in the class.

8. What is the area of circular region C?
   1) C has a circumference of 4π 2) C has a diameter of 4.

9. Is $x < y$?
   1) $-0.25 < x < 0.25$ 2) $0.15 < y < 0.35$.

10. Is the sum of x and y an odd number ?
    1) x and y are two different prime number?
    2) The product of x and y is an even number?

11. If x is an integer, is x and odd number?
    1) 3x is an even number 2) $x + 2$ is an even number.

12. If p, q and r are consecutive integer, in that order, what is the value of q?
    1) $q + p + r = 0$
    2) $pr = -1$.

13. Is xy a positive number?
    1) x^2y is a positive number
    2) x / y is a positive number.

14. Is $a - b > 0$?
    1) $a > b$
    2) $a^2 > b^2$

15. What is the remainder when x is divided by 15?
    1) x is a multiple of 3
    2) x is a multiple of 5.

16. At a certain picnic, each of the guests was served either a single scoop or a double scoop of ice cream. How many of the guests were served a double scoop of ice cream?
    (1) At the picnic, 60 percent of the guests were served a double scoop of ice cream
    (2) A total of 120 scoops of ice cream were served to all the guests at the picnic.

17. If a real estate agent received a commission of 6 percent of the selling price of a certain house, what was the selling price of the house?
    (1) The selling price minus the real estate agent's commission was $84,600.
    (2) The selling price was 250 percent of the original purchase price of $36,000.

18. Is $xy < 6$?
    (1) $x < 3$ and $y < 2$
    (2) $\frac{1}{2} < x < \frac{2}{3}$ and $y^2 < 64$.

19. In IBA, 300 students study Finance or Marketing or both. If 100 of these students do not study Finance, how many of these students study both Finance and Marketing?
    (1) Of the 300 students, 60 do not study Marketing.
    (2) A total of 240 of the students study Marketing.

20. If *i* and *j* are integers, is $i + j$ an even integer?
    (1) $i < 10$ and $j < 7$
    (2) $i = j$

21. Committee member Amit wants to schedule a one hour meeting on Thursday for himself and three other committee members: Rafi, Emon, and Sagor. Is there a one-hour period on Thursday that is open for all four members?
    (1) On Thursday, Amit and Rafi have an open period from 9:00 a.m. to 12:00 noon.
    (2) On Thursday, Emon has an open period from 10:00 a.m. to 1:00 p.m. and Sagor has an open period from 8:00 a.m. to 11:00 a.m.

22. If $x > 0$, and $xy = z$, what is the value of yz?
    (1) $x^2y = 3$
    (2) $\sqrt{(xy^2)} = 3$

23. Is the product of x and y greater than 60?
    (1) The sum of x and y is greater than 60.
    (2) Each of the variables is a positive integer.

24. Is w an integer?
    (1) 3w is an odd number.
    (2) 2w is an even number.

25. If A and B are positive integers, is the product AB even?
(1) A + B is odd. (2) A is even.

26. A bucket was placed under a dripping tap which was dripping at a uniform rate. At what time was the bucket full?
(1) The bucket was put in place at 2 P.M.
(2) The bucket was half full at 6 P.M. and three-quarters full at 8 P.M. on the same day.

27. If 90 contestants auditioned for a musical competition, how many were accepted?
(1) $2/3^{rd}$ of the boys and $1/3^{rd}$ of the girls who auditioned were accepted.
(2) Among the boys who auditioned 26 were accepted.

28. Is the length of a side of equilateral triangle E less than the length of a side of square F?
(1) The perimeter of E and the perimeter of F are equal.
(2) The ratio of the height of triangle E to the diagonal of square F is $2\sqrt{3} : 3\sqrt{2}$.

29. If a and b are both positive, what percent of b is a?
(1) a = 3/11 (2) b/a = 20

30. A wheel of radius 2 meters is turning at a constant speed. How many revolutions does it make in time T?
(1) T = 20 minutes.
(2) The speed at which a point on the circumference of the wheel is moving is 30 meters per minute.

31. The ratio of the number of women to the number of men to the number of children in a room is 5: 2: 7. What is the total number of people in the room?
(1) The total number of women and children in the room is 12.
(2) There are fewer than 4 men in the room.

32. How many liters of mango juice were added to the orange juice in a certain container?
(1) The amount of mango juice that was added was 1/3 the amount of orange juice in the container.
(2) There were 9 liters of orange juice in the container.

33. What is the value of n?
(1) 3n + 2m = 18 (2) n – m = 2n – (4 + m)

34. If x and y are both positive integers, how much greater is x than y?
(1) x + y = 20 (2) $x = y^2$

35. One number, 'n' is selected at random from a set of 10 integers. What is the probability that ½ n + 13 = 0?
(1) The smallest integer in the set is –20.
(2) The arithmetic mean of the set is zero.

36. What is the length of the diagonal of rectangle ABCD?
(1) The perimeter of the rectangle is 16.
(2) The area of the rectangle is 16.

37. What is the ratio of male to female officers in the police force in Mymensingh town?
(1) The number of female officers is 250 less than half the number of male officers.
(2) The number of female officers is 1/7 of the number of total officers.

38. What is the number of cans that can be packed in a certain cartoon?
(1) The interior volume of this cartoon is 4608 cubic inches.
(2) The dimension of each can is 6 inches high and has a diameter of 4 inches.

39. If x & y are integers and x > y, what is the value of x?
(1) $x^2 + y^2 = 25$ (2) xy = 12

40. In a certain lane, there is only one red car and one green car. If there are 7 cars between the red car and the green car, what is the total number of cars in that lane?
(1) There are 9 cars in front of the red car.
(2) There are 9 cars behind the green car.

ANSWER KEYS

1. E	2. A	3. C	4. C	5. A	6. B
7. C	8. D	9. E	10. C	11. D	12. D
13. B	14. A	15. C	16. C	17. D	18. B
19. D	20. B	21. C	22. B	23. E	24. B
25. D	26. B	27. C	28. D	29. B	30. C
31. D	32. C	33. B	34. C	35. A	36. C
37. B	38. E	39. E	40. E		

IQ QUESTIONS

IBA ভর্তি পরীক্ষায় Analytical Ability section এ কিছু প্রশ্ন থাকতে পারে যেগুলো শুধুমাত্র সাধারণ বুদ্ধির (common sense) উপর করা হয়ে থাকে। এসব প্রশ্নের মাধ্যমে আপনার IQ (Intelligence Quotient) পরীক্ষা করা হয়। IBA Admission Test '96-97 এর একটি question ছিল এরকম-

Which is the odd one out?

A) Pen (B) Paper (C) Dagger (D) Ink (E) Pencil.

Question টির অর্থ হচ্ছে answer choice গুলোর মধ্যে কোনটি বাকীগুলোর সাথে বেমানান। নিশ্চয় আপনি বুঝতে পারছেন এক্ষেত্রে Dagger-ই- সঠিক answer কারণ এটি বাকীগুলোর সাথে একেবারেই অসামঞ্জস্যপূর্ণ।

'97-98-এ একটি Question ছিল এরকম-

If A = Bat, B = Cat, C = Dad, D = Eat, then E =?

A) Dad (B) Egg (C) Eat (D) Fat (E) Fit.

খুবই সোজা একটি প্রশ্ন। Question stem-এ আমরা দেখতে পাচ্ছি প্রত্যেকটি letter কে represent করছে ঠিক পরবর্তী letter + a দিয়ে শুরু একটি শব্দ। সুতরাং E-কে represent করবে F + a দিয়ে শুরু কোন শব্দ।

The answer is (D) Fat.

আরেকটি question লক্ষ্য করুন-

A is the son of B, but B is not the father of A. What can we deduce from the above statement?

Answer choice-ও দেখার দরকার নেই। A, B এর ছেলে। B, A এর বাবা নয়। তাহলে অবশ্যই B, A এর mother.

'98 - 99 BBA Admission Test এ এসেছে এরকম একটি question দেখি-

Your friend throws a ball to you. After catching it, you throw it back to him and the game goes on. If each of you catches the ball five times, at least how many throws must take place between two of you?

A) 25 (B) 15 (C) 11 (D) 5 (E) None of these.

প্রশ্নটা বোঝার চেষ্টা করুন। আপনার বন্ধু আপনাকে একটি বল ছুঁড়ে দিল এবং আপনি বলটি return করলেন। এভাবে চলতে থাকল। আপনারা দুজনেই পাঁচবার বলটি catch করেছেন। প্রশ্ন হচ্ছে at least কয়বার বলটি throw করা হয়েছে।

At least throw এর সংখ্যা 10. Answer (E). পাঁচবার catch ধরতে হলে throw হতে হবে পাঁচটি।

এভাবে উভয়ে যদি পাঁচটি catch ধরে থাকে তাহলে মোট throw ১০টির কম হওয়া অসম্ভব।

PRACTICE EXERCISE

1. Which one of the following words fits best to hours, minutes and second?
   (A) Decade (B) Year (C) Month (D) Week (E) Day
2. Car is to wheel as Horse is to ---
   (A) belly (B) body (C) tail (D) leg (E) none of these
3. If 5 athletes run a mile in 5 minutes, how much time will 50 athletes take to run a mile?
   (A) 0.1 minutes (B) 5 minutes (C) 10 minutes (D) 50 minutes (E) 250 minutes
4. If some electric poles stand in a straight row 60 yards apart, what is the distance from the first to the 10^{th}?
   (A) 600 yards (B) 540 yards (C) 1000 yards (D) 800 yards (E) None
5. BATHE stands for 23541, the TEA stands for
   (A) 135 (B) 351 (C) 513 (D) 452 (E) 235
6. If 653042 stand for VOLUME, the 4032 stands for
   (A) MULE (B) MLEU (C) VOLU (D) UMLE (E) MELU
7. Pen and Tuk, Chair and ---
   (A) Stamp (B) Pencil (C) Pot (D) Handle (E) Table

8. Why the flash of a thunder is seen first, then the sound is heard a little?
A) Because it is distant B) Because of air resistance
C) Because of clouds D) Because light travels much faster than sound
E) Because the eye works faster than the ear

9. Watch is to time, as barometer is to-------
(A) thermometer (B) atmospheric pressure (C) chemical energy
(D) volume (E) solar energy

10. As tomorrow is to yesterday, so Tuesday is to -----
(A) Sunday (B) Saturday (C) Monday (D) Wednesday (E) Friday

11. A is the brother of P, Q and R are sisters, R is the mother of B and B is A's sister.
If the assumptions are true, then it is also true that
(A) Q is the mother of A (B) A and Q are sisters (C) P is the brother of B
(D) B is R's son (E) None of the above.

12. Which is the odd one out?
A) Tennis B) Football C) Cricket D) Hockey E) Chess

13. If you buy a book for Tk. 100 and sell it at a price which is not more than your buying price, then your selling price can be------
A) Tk.75 B) 150 C) Tk.100 D) Both B and C E) Both A and C

14. You are playing chess with a player of the same standard as yours, what is the probability of your winning the game?
A) 25% B) 50% C) 66.66% D) 33.33% E) 100%

15. Mr. Rahaman and his biological son, Alamgir, become seriously injured a car accident and are taken to the hospital. The doctor attending them immediately recognizes Alamgir and cries out "Oh god! Please save my only son". Which of the following is the most likely explanation?
A) The doctor is hallucinating as result of Nitrous oxide overdose.
B) The doctor is actually an escape from the lunatic Ward.
C) Mr. Rahaman is the biological son of the doctor.
D) Dr. is the mother of Alamgir.
E) None of the above.

16. Rumana is taller than Nazia. Fariha is taller than Lamia. Lamia is shorter than Mashrifa. Nazia and Mashrifa are of the same height.

If the above is true, which of the following statements must also be true?

A. Fariha is taller than Mashrifa B. Fariha is taller than Rumana
C. Nazia is taller than Fariha D. Rumana is shorter than Lamia
E. Nazia is taller than Lamia

17. Bell A rings every 2 minutes and B rings every 3 minutes. If the bells ring simultaneously at 1:00 p.m. what is the total number of times the bells will ring simultaneously between 1:00 p.m. and 2:00 p.m. inclusive?

A. 12 B. 11 C. 10 D. 9 E. 8

18. Which is the odd one out?
A) Nokia B) Unilever C) Nestle D) Square E) Samsung

19. A doctor gives you 3 tablets telling you to take 1 every half an hour. How many minutes would the tablets last once you start to take them?
A. 30 B. 45 C. 60 D. 90 E. 120

20. In a drawer, there are 10 pairs of socks; that is, 20 socks in total. Among them, 10 are black and 10 are white. You are getting ready for a party and you must wear a pair of socks of same color. Now if you randomly start picking socks without looking at the drawer, at least how many socks you need to pick up to make sure that you get a pair of same color?
A. 2 B. 3 C. 10 D. 11 E. 12

IBA এর ভর্তি পরীক্ষায় Analytical section এ কিছু প্রশ্ন থাকতে পারে যেগুলো critical reasoning, puzzle বা IQ- কোনো category তেই পড়ে না। এসব প্রশ্ন গুলো মূলতঃ Math এর basic concept-এর উপর করা হয়। These are mathematical questions but don't need much calculation and can be done mentally. এ ধরনের কিছু প্রশ্ন নীচে দেওয়া হলো।

PRACTICE EXERCISE

1. Riyad has Tk. 5 more than Adnan and Adnan has Tk. 2 more than Shoeb. Which of the following exchanges will ensure that each of the three has an equal amount of money?

A) Riyad must give Shoeb Tk. 4 Adnan must give Shoeb Tk. 5
B) Shoeb must give Riyad Tk. 1 and Riyad must give Adnan Tk.
C) Riyad must give Adnan Tk. 1 and Shoeb Tk. 3
D) All of the above
E) Either A or B

2. Which of the following expressions is closest to 1?

A) $\frac{5}{5+0.05}$ B) $\frac{5}{(5+0.05)^2}$ C) $\frac{5}{5+0.5}$ D) $\frac{5}{5+(0.05)^2}$ E) $\frac{5}{(5+0.5)^2}$

3. Five people join an exercise class. X weighs 50 kg. P weighs 46 kg, more than P but 2 kg less than A. Again M weigh the same as X. After a month of training m and P each lose 1 kg and X and A each of lose 2 kg. N, who has been secretly bringing a box of sweets to class, gains 2 kg. After the month of training, which two people weight the same?
(A) X and M (B) M and A (C) X and A (D) M and N (E) A and P

4. If XY > 0, which of the following cannot be true?

A. X > 0 B. Y < 0 C. X + Y < 0 D. $\frac{X}{Y} > 0$ E. $\frac{X}{Y} < 0$

5. Which of the following numbers cannot be the last digit of a squared number?
(A) 0 (B) 1 (C) 2 (D) 4 (E) All

6. A rectangle is R inches long and S inches wide. Its length is increased by 4 inches. The area (in sq. inches) has increased by–
(A) 4 RS (B) 4 R (C) 4 S (D) 16 RS (E) 4 (R + S)

7. If a, b, c, d are all different positive integers and a x b x c x d = 42, how many of these integers are prime numbers?
(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

8. If x > 2 and y > - 1, then:
(A) x < 2y (B) –x > 2y (C) –x < 2y (D) xy > - 2 (E) xy < - 2

9. Mr. Reza leaves Dhaka city at 8 a. m. and drives north on the highway at an average speed of 50 mph. Mr. Sabbir leaves Dhaka city at 8:30 a.m. and drives north on the same highway at an average speed of 60 mph. Mr. Sabbir will
A) Overtake Mr. Reza at 9:30 a.m. B) Overtake Mr. Reza at 10:30 a.m.
C) Overtake Mr. Reza at 11 a.m. D) Be 30 miles behind at 8:35 a.m.
E) Never overtake Mr. Reza.

10. Fill in the blank space with the appropriate number: 2, 3, 5, 7, —, 13, 17
(A) 10 (B) 9 (C) 11 (D) 12 (E) None of these

11. If the product of four different positive integers is 60, how many of these integers are prime numbers?
(A) 1 (B) 2 (C) 3 (D) 4 (E) Cannot be determined

12. A, B, C, D, E and F are integers such that the sum of the numbers in the three boxes in any row, column or diagonal is an odd number.

10	11	A
B	C	D
E	13	F

Which of the following must be true for the number D?
A) It must be an even number
B) It must be an odd number
C) It must be a multiple of 5.
D) It must be a multiple of 3.
E) It cannot be determined from the information given.

13. If $w + x + y + z = 35$, then at least how many of the numbers among w, x, y, z must be positive?
(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

14. X is a positive integer. When $x + 1$ is divided by 6, the remainder is 5. What is the remainder when X is divided by 6?
(A) 7 (B) 5 (C) 4 (D) 3 (E) None

15. If the product of hree consecutive integers is 210, then the sum of the two smaller integers is:
(A) 5 (B) 11 (C) 12 (D) 13 (E) 18

16. If two numbers have only the number 1 as a common divisor, then they are called "relatively prime". Which of the following are NOT "relatively prime"?
(I) 3 (II) 4 (III) 7 (IV) 12
(A) I and II, I and III (B) I and IV, II and IV (C) II and III, II and IV
(D) II and IV, III and IV (E) I and II, I and IV.

17. What is the next number in the series: 1, 2, 3, 5, 8 ---?
(A) 11 (B) 10 (C) 13 (D) 15 (E) Cannot be determined

18. The next number in the arithmetic progression 32, 40, 48, ---- is
(A) 56 (B) 64 (C) 38 (D) 24 (E) 52

19. The closest approximation of $\frac{22\times0.005}{0.05}$ is:
(A) 0.082 (B) 0.82 (C) 8.2 (D) 82 (E) 820

20. If the product of 7 integers is negative, then at most how many of the integers can be positive?
(A) 1 (B) 2 (C) 6 (D) 7 (E) Cannot be determined

ANSWER KEYS

IQ Questions

1. E	2. D	3. B	4. B	5. C	6. A	7. E	8. D	9. B	10. A
11. C	12. E	13. E	14. D	15. D	16. E	17. B	18. D	19. C	20. B

Math Tricks

1. C	2. D	3. D	4. E	5. C	6. C	7. D	8. C	9. C	10. C
11. B	12. B	13. B	14. C	15. B	16. B	17. C	18. A	19. C	20. C

Chapter 5
Written English

- ⇨ Essay / Short Note / Paragraph Writing
- ⇨ Thematic Writing
- ⇨ Sentence Re-Writing
- ⇨ Logical Writing
- ⇨ Data Interpretation / Presentation
- ⇨ Dialogue Writing

ESSAY /SHORT NOTE / PARAGRAPH WRITING

IBA (MBA) Admission Test এর Written English Section-এ অন্যতম গুরুত্বপূর্ণ এবং challenging অংশ হচ্ছে writing short notes, essays and paragraphs. পরীক্ষার এই পর্যায়ে examinee কে above mentioned pattern এ at least written composition করতে হয়. Of course এই কাজটি করা প্রয়োজন একটি tight time restriction এর ভেতরে, which means এই section এ examinee কে prompt analysis এবং composition skills এর পরিচয় দিতে হয়। Following are the task types যা পরীক্ষায় আসতে পারে :

- Short Note Writing এবং Essays [মূলত একই কাজ]
- Paragraph Writing

Essays:

Essays, by definition, are independent compositions, which make, on their own, *propositions* (প্রস্তাব) and *deduce* (সিদ্ধান্তে পৌঁছানো) conclusions by the use of relevant facts, examples and descriptions.

The essay quarries in the IBA Admission Tests, lately, have been as following:

1. *... What makes a good teacher different from others and why do you think so?* (2000-2001)
2. *Write a short essay on "The best way to prepare for a test" ...* (2001-2002)
3. *... write an essay on one of the qualities you like most about yourself.* (2002-2003)
4. *... describe the most terrifying experience you had in your life.* (2003-2004)
5. *... describe an event where you have proved your managerial skills.* (2004-2005)

So, it can be seen that at times examinees are asked to propose opinions and defend them and at other times are required to present ideas that have to be then elaborated or clarified. Thence, answers to these questions have to meet the following requirements, which really are elementary to essays:

a. A "Thesis" is to be introduced *at the helm of* (সামনের দিকে) the composition.
b. Details, supportive/elaborative of the "Thesis", are then to follow.
c. Lastly, a "Conclusion" is to be drawn in accordance to the supporting details.

Also, by rule, essays must be structured in the original 3-part format. Of course, all answers should be grammatically accurate and logically *coherent* (সঙ্গতিপূর্ন)

Structural Elements of a Generic Essay

- Mandatory Elements:

Thesis Statement	*Illustration of the main idea or **thesis** of the essay. Must be included in the introduction.*
Supporting Details	*(Descriptions, facts, examples that elaborate and/or support the thesis. Must be accommodated in the **Body** part of the essay.*
Conclusion	*(Transliteration of the thesis to an assertive judgment drawn from, and by the power of, the supporting details. Must be encased within the ultimate paragraph)*

- Optional Elements:

Attention Grabber	*(The statement[s] often used at the head of Introduction and, less frequently, Body Paragraphs, to engross the "attention" of readers.*
General Statements	*(Relatively neutral (i.e. non-assertive), superficial, and, sometimes, purely rhetorical, statements drafted for the purpose of providing initiation of, and/or continuation among, paragraphs and/or illustrations of ideas within wherever necessary in essays)*

Writing Paragraphs

Since several paragraphs make an essay, writing *sovereign* (সার্বভৌম) paragraphs may seem likely to pose only a third of the task-load of essay writing. In the IBA Admission Test, however, the paragraph writing section brings about several genuine challenges and is not mathematically correct in its level of difficulty. This is because –

i. Firstly, a *solitary* (একাকিনত্ব) paragraph must be self-explanatory, as it is not preceded or followed by other introductory or supportive paragraphs, and, hence, is equally demanding of completeness as are essays.

ii. Secondly, if prompted to write several (e.g. two) paragraphs, the *composite* (যৌগিক) response of the examinee to a writing prompt is to be divided logically among the *requisitioned* (প্রয়োজনীয়/আনুষ্ঠানিক ভাবে চাওয়া) paragraphs and elaborated within respectively. This becomes problematic, especially, for a pair of paragraphs.

iii. Also, the paragraphs should be more *verbose* (শব্দ-বহুল) than they may be within essays, obviously for assignments requiring less than 3 paragraphs (any composition that may have 3 or more paragraphs can be drafted as essays unless instructed explicitly otherwise).

iv. The usual structural requirements of paragraph writing, of course, are moreover applicable.

Structural Elements of a Generic Paragraph

- Mandatory Elements:

  Topic Sentence (*The sentence that illustrates the subject topic of the paragraph – main focus*)

  Supporting Details (*Descriptions, facts, examples that elaborate and/or support the subject topic of the paragraph*)

- Optional Elements:

  Initiator (*Words, phrases, sentences written physically ahead of and for making grounds for the Topic Sentence*)

  Connectors (*Words, phrases, sentences written to express connection/transition to the adjacent paragraph[s]*)

A comparison of Essay and Paragraph writing may seem as follows:

i. Number of Paragraphs –
   a. Essay Writing: Default (3 minimum), therefore, can be *pre-empted* (পূর্বে ধারণা কৃত).
   b. Paragraph Writing: Variable, is dictated within the question stem.

ii. Presenting Ideas –
   a. Essay Writing: Paragraphs assume specific roles and cooperatively address the task at hand.
   b. Paragraph Writing: The task has to be forcefully *integrated* (সংযুক্ত) or *disintegrated* (বিযুক্ত) as dictated by the question stem.

iii. Inter-relationship of paragraphs –
   a. Essay Writing: Commonly has 3 paragraphs, which serve default functions, that do not additionally require *delineation* (চিত্রায়ন) of inter-relationship.
   b. Paragraph Writing: Sovereignty of and inter-relationship between paragraphs have to be carefully *crafted* (দক্ষতার সাথে তৈরী) by applying proper transitional phrases or sentences.

The Writing Process: Essays

1. **The Structure –**
   a. Introduction:
      - Generally consists of 1 paragraph.
      - Primarily hosts the Thesis Statement, along with general, *engrossing* (আকর্ষণীয়), connective, and transitional statements.
      - Not required to be self-explanatory as it is immediately followed by at least 1 paragraph of supporting details.
      - Transition to the following part using transitional is not *mandatory* (বাধ্যতা মূলক).
   b. Body:
      - Hosts all the supporting details in 1 or several paragraphs, each elaborating 1 supporting point.
      - Each Body paragraph should be clearly connected to its surroundings.
      - Each Body paragraph must have its own topic sentence, a supporting point to the Thesis.
      - If structured in 1 paragraph, the topic sentence should be an over-all reference to all supporting details to be cited.
   c. Conclusion:
      - Generally written in 1 paragraph.
      - Should have a judgment or over-all viewpoint deduced from the supporting details.
      - Should have a tone of ending, which, in practice, is achieved by use of conclusion indicators such as "In conclusion", "To conclude" etc.

2. **Elementary Qualities –**
   a. Precise and Presentable Thesis Statement:
      - Must be included in the introduction.
      - Must definitively illustrate the main idea of the essay.
      - Must be independent, not relying on references to the question stem or any other exterior entity.
      - May be presented in 1 or several sentence(s).
      - Better if constructed in knowledgeable fashion, by use of formal, written language.
      - May be written in simple or complex-compound sentence(s). But language should be effective and impressive.
   b. Organization:
      - The *components* (গাঠনিক উপাদান) of the essay must be properly organized, Introduction being the first and Conclusion the last paragraph. Also, the content of the components have to be properly selected, meaning, the introduction should not be *encumbered* (বোঝা/বাধা গ্রস্থ) with supporting details and the body may not make new propositions and so on.
      - Each paragraph should be written in language, style and *rationale* (যুক্তি) that are consistent with other paragraphs.
      - Supporting details should be presented in order of importance/effect.
      - All details included must be supportive of the Thesis of the essay.
      - Word usage should be economized, meaning, the number of words used should be set according to the optimization of effectiveness of the composition. In other words, while volume is not directly correlative with quality, and any excess may lead to degradation of the essay, lack of words, where additional clarification or elaboration is clearly necessary, makes the essay *premature* (অপরিণত).
      - Dramatization, like potentially shocking examples, frequent questions targeted to the reader, *redundant* (অতিরিক্ত) verbal-ornamentation or even exclamations are rarely *warranted* (যেমন দেখা) in the contemporary essay.

c. Accurate Construction:
- All sentences must be put together maintaining accuracy of grammar. Misspelled words are taken as invalid words and will always disrupt the grammatical *cohesion* (অনুকূল করা) of sentences, also.
- Thesis, supporting details and Conclusion of the essay must point at the same logical direction. The body must support the Thesis statement in the introduction, and, together, they must lead to the conclusion.

3. **Approach to Task Fulfillment –**

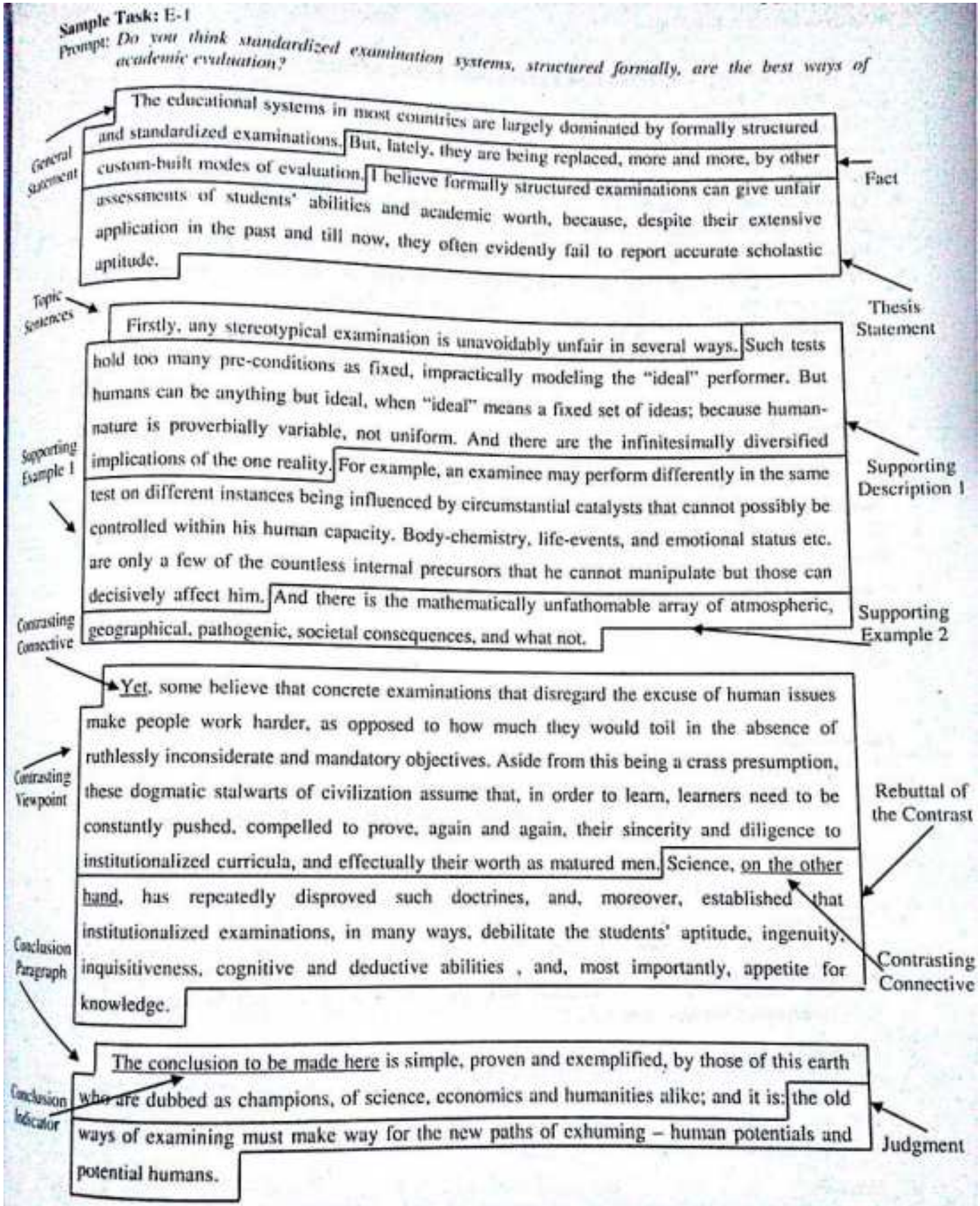
a. Target Setting:
- Read the topic carefully, understand clearly what is being asked for in the question, then plan your essay only to fulfill the task requirement.
- Express, to the reader, the point of argument or description as clearly as it has to be comprehended.
- Write a clear and precise Thesis Statement to exhibit the intended point of view of the essay accurately.

b. Thought Development:
- *Brainstorm* (বিভিন্ন ভাবে চিন্তা করা) for ideas to support the Thesis. Then sort, select and organize your thoughts for presenting the best possible support.
- Create an outline of the essay before starting to draft the essay for *ascertaining* (নিশ্চিত করা) focus and objectivity.
- Take caution while selecting ideas for the support and when considering ideas that evolve during the writing process and were not included in the original outline.
- Avoid ideas that may be too *expansive* (সুপরিসর) to hold within the scope of the task requirement, both in length of elaboration and depth of consideration. Also keep away from all potential *controversies* (বিতর্কিত বিষয়).
- Always keep ideas on a thin line of relevance.

c. Careful Composition:
- Every paragraph should be first played out in mind before composing it. Body paragraphs should have distinguished topics, thereby, clear topic sentences, and proper transitional sentences.
- Plan each sentence before putting it on paper. Sentences should be written following rules of Grammar and with a purpose. All the sentences should be focused on the topic sentences of their paragraphs.
- Select words to be used in sentences carefully. While use of academically and formally rich words will increase the weight of the essay, misused words will discredit it. Do not use words that you are not perfectly comfortable with and apply and spell each and every word accurately.
- It is very easy to get carried away within the writing process. Do not drift away from the frame of the essay outlined at the beginning. Always maintain focus on accuracy, method and the original plan of the essay. Instinctive writing is frequently incorrect.
- What is written on paper should reflect what you have planned to say in response to the question initially. Do not write expressions just because you "think" they are usually found in essays.

Sample Task: E-1

Prompt: *Do you think standardized examination systems, structured formally, are the best ways of academic evaluation?*



Myths and Facts about Essay Writing

- **Attention Grabbers** are overestimated. The academic essay does not have to have an appealing opening line. Rather an economic approach to the thesis statement is better *appraised* (মান নির্ধারণ), saving the examiner from redundant reading.
- **Over-informative introduction** is also pointless. Inclusion of relevant facts within the introductory paragraph should be limited only within context building.
- **Decorating of the thesis statement** should always be second to its clarity and definitiveness.
- **Hesitant or *tentative*** (আপাতত) expressions should be avoided. For example, "I believe" is more assertive, thereby more effective, than "I think" as an initiation of the thesis.
- The reader should not be **"among 'you',"** rather **"within 'us'."** For example: "if you consider the societal impact of ..." is not as reader-friendly as "if we ...".
- Using **personal examples** is not the best option. Still, if used as last resort, don't make your story unbelievable just because it may not be cross-checked.
- **Complex-compound sentences** are good for illustrating un-detachable strings of thoughts and impressing the examiners. But they should be used cautiously as their construction is also complex. Use them whenever needed, not *pre-meditatively* (পূর্ব পরিকল্পিত ভাবে).
- **Punctuation and capitalization** errors are equally fatal as misspellings.
- Distinguishing **British and American** styles of construction is really not a big deal anymore. Try to maintain one consistent style but don't be *frantic* (উৎকণ্ঠিত) over it.
- **Conclusions** do not have to be "unforgettable". As in everywhere in the essay, accuracy is better valued than dramatization.
- **Be practical** at all times. The fruit of your essay is only, yet all-importantly, the mark it may get from the examiner.

The Writing Process: Paragraphs

1. **The Structure –**
   a. Text Grouping:
      - Sentences are physically *pigeonholed* (শ্রেণী কৃত) in a paragraph on the basis of topic.
      - All included sentences must be thematically *familial* (একই পরিবারের) forming 1 unitary block of text.
      - Such unit of texts must qualified to be *sustained* (বেঁচে থাকা/বাঁচিয়ে রাখা) individually or in succession with (an) other paragraph(s).

   b. Topic Sentence
      - There must be at least a sentence that conveys, to the reader, the subject topic of the paragraph.
      - The writing scope of a paragraph, therefore, should be determined by the conceptual broadness of the topic sentence.

   c. Supporting Details
      - The physical volume of a paragraph should primarily be constructed with words, phrases, and sentences that elaborate and/or support the subject topic.
      - Any and/or all contradictory texts will be held "*in-contempt*" (অবজ্ঞা করে এমন) to the respective topic sentence and, thereby, invalidated.

   d. Initiators
      - Are optional components, options that should not be *dwelled upon* (চিন্তা করা) too seriously.
      - If present, but in incorrect formation, may potentially discredit the paragraph.

c. Connectors
- They become applicable and essential when multiple paragraphs are composed together.
- Are used for transition, of focus, to and/or from, ideas housed in neighboring paragraphs.

2. Elementary Qualities –

a. Single Paragraphs:
- Again, must have sovereign sustenance – should dwell only within and unto itself
- Should be self-explanatory-evident-supportive-dependent, radicals behaving like essays.

b. Paired Paragraphs:
While "a pair" nakedly means "2 in number", two paragraphs being written *in-pair* means
- two thematically successive blocks of text
- are *co-uterine* (সহজাত) of, and co-host, the 1 composite thesis
- in mutual bondage, though not necessarily in *harmony* (সৌহার্দ্য), with none but each other
- complementary to, only, themselves
- together, not needy of *augmentation* (বৃদ্ধি করা)

c. Trio of Paragraphs, or better:
- If made in to essays, the writing process must accurately be of essays
- If left as multiple paragraphs co-habiting, connectors or transitional phrases and sentences must be carefully put in.
- Paragraphs orphaned, by mistake, not having being properly inter-connected to the series, may very well be discounted

3. Approach to Task Fulfillment –

a. *Transfiguration* (শারীরিক রূপান্তর) for Solitary Paragraphs:

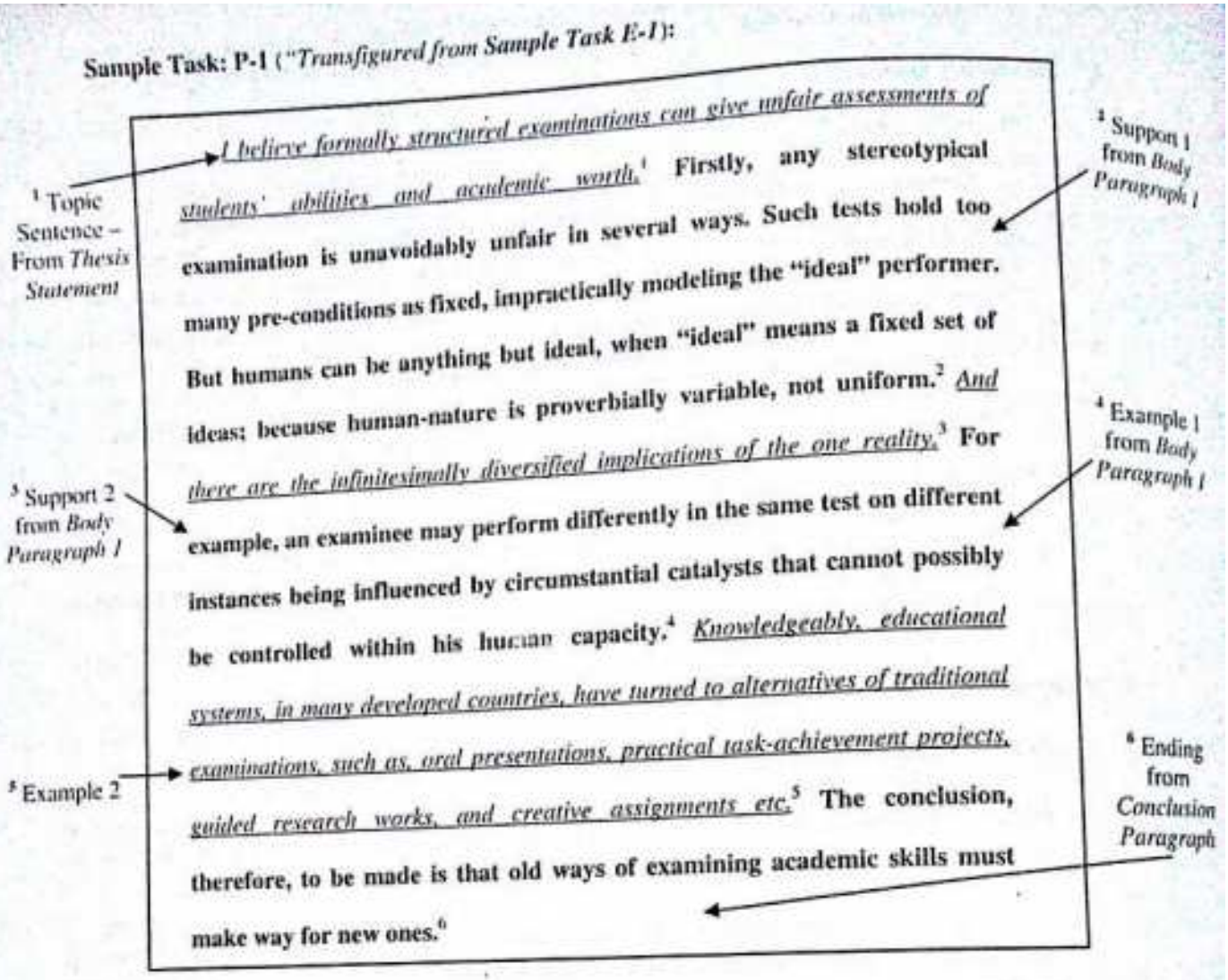
As said before, Paragraph Writing, in general, is not the "lesser" composition task in terms of difficulty. Curiously, though, a *solitary* paragraph has *resemblance* (সাদৃশ্য) with, and may be imaged as, if not *caricatured* (ব্যঙ্গ করা), an *abridged* (সংক্ষিপ্ত) and "un-paragraphed" essay.

"... if the fore-words (প্রাথমিক শব্দাবলী)*, topic sentence and hind* (শেষাংশ) *of the singular paragraph are connoted* (সমার্থক ধরে নেয়া) *with a syndicate* (একই স্বার্থে মিলিত) *of Introduction, Body and Conclusion respectively."*

Such an approach, as corrupt as it may sound, does deliver a *self-sustaining* paragraph granting that *transfiguration* of the essay elements has been done appropriately and, of course, the *fabricator* (নির্মাণকারী) (i.e. the examinee) is knowledgeable of the general process of essay writing.

"It must be said at this point that students, especially of High School and College, generally are accustomed (পরিচিত)*, though – regretfully – not always equipped* (প্রস্তুত)*, to writing essays, a task that they have repeatedly attempted to fulfill for years."*

Sample Task: P-1 (*"Transfigured from Sample Task E-1"*):



I believe formally structured examinations can give unfair assessments of students' abilities and academic worth.[1] **Firstly, any stereotypical examination is unavoidably unfair in several ways. Such tests hold too many pre-conditions as fixed, impractically modeling the "ideal" performer. But humans can be anything but ideal, when "ideal" means a fixed set of ideas; because human-nature is proverbially variable, not uniform.**[2] *And there are the infinitesimally diversified implications of the one reality.*[3] **For example, an examinee may perform differently in the same test on different instances being influenced by circumstantial catalysts that cannot possibly be controlled within his human capacity.**[4] *Knowledgeably, educational systems, in many developed countries, have turned to alternatives of traditional examinations, such as, oral presentations, practical task-achievement projects, guided research works, and creative assignments etc.*[5] **The conclusion, therefore, to be made is that old ways of examining academic skills must make way for new ones.**[6]

b. Thought Differentiation for Pairs:

The principle task for paired paragraphs is forging a complementary pair of topic sentences differentiated from the same thesis, *impregnated* (ধারণ করা) by the examinee as an ideal response to a task prompt. This process of *bisecting* (দুই টুকরো করা) a composite response to obtain a couple of *co-uterine* sub-responses, paragraph topics in this case, may be sketched, in steps, as the following:

i. The initial thesis should be promptly *though-out* () after the task prompt is carefully read, like is done for essay assignments. A Thesis Statement may even, and perhaps should, be drafted. This hopefully will have been *in mom's kitchen* (পরিচীত) being so *flaunted* (জাহির করা) by essays.

ii. The *generic* (সামগ্রীক) thesis then has to be *analyzed* (বিশ্লেষণ করা). The analysis, in other words – logical *defragmentation* (টুকরো গুলো একসাথে করা), can be done by "hitting" the thesis statement with any, some or all – whenever applicable – of the following "info graphic" questions for obtaining micro-concepts:
Quarries on –

- **preconditions** (i.e. *precedential* (পূর্ব দৃষ্টান্ত) considerations leading to the thesis)
- **consequences** (i.e. *descendant* (পরবর্তি ফলাফল) arguments/scenarios)
- **psycho-segments** (i.e. *unitary* (ঐক্যিক) ideas – here: of the Thesis Statement).

iii. These *micro-concepts* (ক্ষুদ্র চিন্তা) then have to be *bi-classified* (দুই শ্রেণীতে ভাগ করা), in other words *polarized* (মেরু বিন্যাস). Determining the *criterion* (মানদন্ড) of bi-classification can seldom be *pre-empted* (আগে করা). In gross terms, the two generic concepts, being mutually exclusive, that *entail* (জড়িত করা), by *interpretation* (ব্যাখ্যা করা) and/or *inference* (অনুমান করা), all unitary propositions, derived from analyzing the initial thesis, may be *dubbed* (নাম করণ) as the two components, or *poles* if we may, of that thesis.

iv. The "poles", once *populated* (অধ্যুষিত করা), are to be put in words thus forming two mutually complementing and co-uterine Topic Sentences.

v. Each Topic Sentence then has to be wrapped or followed by supportive texts tightened as a block thereby forming a paragraph. The supportive texts are, of course, verbalization of the subordinate unitary concepts of the concurrent topic.

vi. The pair of paragraphs thus *forged* (গড়ে তোলা) must then be *married* (সংযুক্ত) by the use of *connectors* or *transitional words, phrases* or *sentences* within either or both of the paragraphs.

Having the complex *analytics* (বিশ্লেষন প্রক্রিয়া) above considered, there are, ironically, the so *benevolent* (উপকারী) task prompts that *simultaneously* (সম-সাময়ীক ভাবে) offer two familial topics already paired and *bilaterally* (দ্বি-পাক্ষিক ভাবে) assigned.

Write 2 paragraphs on **"Teenagers are seldom understood by their elders."** *The 1st paragraph should outline special behavioral characteristics of the teenagers, while 2nd paragraph should highlight the difference leading to the generation gap.* (1998-99)

Here above, for example, the question stem is accommodating a *bi-*চড়ভবহঃ (দ্বি-সম্ভাবনাময়) task prompt, which means all the *:::mind-bending* (জটিল/ যা সহজে বোঝা যায় না) and, more importantly, time-consuming *psycho-drills* (মানষিক অনুশীলন) can be restfully set aside and the writing process started. Fortunately, especially for the *truants* (ফাঁকীবাজ), such pre-disposed task prompts *frequent* (প্রায়ই উপস্থিত থাকা) the IBA (BBA) Admission Test question papers and it will not be wrong to say that they are more common than the other.

c. Task conversion for Trios and such:

Also as said above, if prompted to write 3 or more paragraphs, the examinee may simply write an essay. For example, if 4 paragraphs have to be written, merely writing an essay, on the subject topic, with 2 body paragraphs *suffices* (যথেষ্ট হওয়া/থাকা).

If paragraph-roles have been pre-assigned in the question, then simply comply therewith.

Dialogue Writing

Dialogue writing বলতে basically দুজন মানুষের কথোপকথনের written expression কে বোঝায়। যে কোন একটি situation বা topic দেয়া থাকবে এবং দুজন ব্যক্তির পারস্পারিক সম্পর্কে বলা থাকবে। আপনার কাজ হবে ঐ পরিস্থিতিতে বা ঐ বিষয় নিয়ে উল্লেখিত ব্যক্তিদ্বয়ের মধ্যে কি ধরনের কথাবার্তা হতে পারে তা নিয়ে লেখা। মোট কয়টি dialogue লিখতে হবে তা question এ mention করা থাকবে।

Dialogue writing এর কিছু general rules নিচে দেওয়া হলো। এই rules গুলো follow করে লিখলে আপনার এই section এ ভাল করার সম্ভাবনা থাকবে।

Method of Procedure

1. Carefully think over the subject given, and jot down briefly the arguments or opinions about in which might reasonably be expressed by the imaginary persons who are supposed to the talking.
2. Arrange these ideas in a logical order, so that one will arise naturally from another in the course of the conversation.
3. Try to imagine what would be the way in which each character in the dialogue would express his views.
4. Keep in mind that your dialogue, when completed, should read like a real, spontaneous conversation. So try to make your imaginary characters talk in an easy, familiar and natural manner.
5. Don't let any of your characters monopolize the conversation.
6. The dialogue should begin in an interesting way, so that the reader's attention may be arrested from the very first.
7. In real conversation, one person sometimes interrupts the other, or breaks in on what he saying. A sparing use of such interruption is quite permissible, and adds to its naturalness.

Note: *Keeping these points in view, write your dialogue in as natural, interesting and realistic a manner as possible. The whole conversation should be brief and the questions and reply as concise and pinpointed as possible.*

AN EXAMPLE: A dialogue between a countryman and townsman, bringing out the comparative advantages of town and country life. Mr. Shohag met Mr. Faruk in town. Mr. Faruk is a man from the countryside.

Shohag: Good morning, Faruk. It is a long time since I saw you in town. Are you staying long?

Faruk: Good morning. No, Shohag. I only came up on business for a few hours and hope to get home again this evening.

Shohag: Running away so soon? Why not stay a few days and enjoy yourself?

Faruk: I don't find much enjoyment in the smoky air of a town and all its noise and racket. Give me the clean air, the sunshine and the quiet of the country.

Shohag: Well, I grant you have the advantage of purer air in the country but as for noise you soon get used to it. In fact, I could not stand your quiet and it would drive the crazy. I like to feel plenty of life and movement about me.

Faruk: Really? Why, I could not get a wink of sleep in a noisy town. And towns are so ugly & nothing to see but ugly smoke grimed houses, dirty streets, hideous advertisements on every hoarding, factory chimneys belching smoke and a dull smoky sky. I have the beauty of the green field you have seen all green field and shady woods and flowery meadows of the country.

Shohag: Ah! My friend, but do not forget what Dr. Anam said, "When you have seen one green field you have seen all green fields come with me down Fleet Street and study man

Faruk : Well all I can say is that Dr. Anam never saw a green field in his life, or he would have know that there is an infinite variety in nature if you have the eyes to see it.

Shohag: But what in the world do you do with yourself in your village? It must be a very dull and slow life, with no theatres, no concerts, no cinemas, no public lectures, and no exciting political meetings. You must lead a stupid vegetables life like a cabbage.

Faruk: Not as stupid and dull as you imagine. I have my garden, which is a great source of pleasure; there is fishing, and a little hunting. And then I love tramping over the hills and seeing the beautiful scenery. And in the evenings I have my books.

Shohag: Well, every man to his taste; but to me yours would be a dull life.

Faruk: Dull or not, it is much healthier. In the pure country, we do not get the epidemics and dirt-produced diseases you have in the towns. And our quiet habits give us longer lives.

Shohag: Yes, you may live longer in the country. But you don't get so much out of life as we do in town. A short life and a merry one, I say.

EXERCISE :

1. Write a dialogue between two friends discussing their hobbies.

2. Write a dialogue between two friends on the choice of a profession of business executive or doctor.

3. Write a dialogue between a father and his son about the son's current educational performance.

4. Write a dialogue between a boy and his girlfriend with their future career plan.

5. Write a dialogue between a teacher and a student on the choice of a subject economics or history.

Logical Writing

এ ধরনের question এ একটি statement দেয়া থাকে এবং ঐ statement এর পক্ষে বিপক্ষে কিছু যুক্তি বা দাবী argument দিতে বলা হয়। এটা অতিশয় Analytical Ability section এর strengthen/weaken questions এর মত। আমরা '96-97 এর question টি দেখি.

Direction: Write three arguments against the statement given below:

"If I score 80% marks in this written test of BBA Admission, I would be selected for admission into the program".

Argument -1: The number of students scoring 80% marks in the written test of BBA Admission may be more than the number of seats of the BBA program.

Argument -2: Score in the written test of BBA Admission may not be the only criterion for selection in the BBA program.

Argument -3: One may fail in one of the sections or subsections in written test even after scoring 80% marks in total.

এবার নিশ্চয়ই বুঝতে পারছেন কিভাবে এ ধরনের question answer করতে হয়। এই section answer করার সময় আপনাকে যা যা করতে হবে তা হচ্ছে-

⇒ *Read the stimulus carefully*

⇒ *Apprehend the claim of the stimulus*

⇒ *Find out the flaw/loopholes of the given statement if you are asked to write against the statement. If you are asked to support of the argument, look out for the strong points.*

⇒ *Organize your points against/ in favor of the statement.*

⇒ *Write your points down in the space given. Be careful of grammatical/ spelling errors.*

⇒ *Don't make your argument so long that the reader gets confused.*

এবার exercise গুলো solve করুন।

EXERCISE

1. Write 3 statements against the following argument - "If I can pass the BBA program, I will get a good job".
2. Write 3 statements supporting the statement given- "The satellite culture is causing lots of damages to our cultural development."
3. Write 3 statements against the stimulus given below:
   "The only cause of generation gap is the difference of age".

Data Interpretation / Presentation Questions

এ ধরনের প্রশ্ন দু'ভাবে করা হয়ে থাকে। একটি category হচ্ছে-প্রদত্ত Data/information এর উপর পাচটি sentence লেখা করা অপর category হচ্ছে একটি paragraph এ প্রদত্ত information থেকে একটি Table তৈরী করা।
IBA Admission Test 96-97 এর একটি question দেখি-

Information on Rickshaws in Dhaka City

	1994	1995
No of licensed Rickshaws	30,000	40,000
No of unlicensed Rickshaws	20,000	40,000
No of accidents involving Rickshaws	800	1000

Write 5 (five) complete sentences using the above data or information.
আমরা এটা করার চেষ্টা করি-

1. In Dhaka City the no. of Rickshaws both licensed and unlicensed increased in one year from 1994 to 1995.
2. No. of unlicensed Rickshaws increased more than that of licensed Rickshaws.
3. In 1995, no of licensed & unlicensed Rickshaws were equal, though licensed Rickshaws were more in no. in '94.
4. There were more accidents involving Rickshaws in 1995 that it was in 1994.
5. Increased accidents involving Rickshaws could be due to increased no of Rickshaws.

নিচের exercise গুলো practice করলেই আপনি এ section টি ভালভাবে answer করতে পারবেন।

Exercise 1:

"In an admission test, no. of students applied was 3200 and 3600 respectively in 1995 and 1996. But the no of students who took the admission tests was slightly less than the no. of applicants. In 1995, 2900 students took the test and the no. of students who took the test in 1996 was 3500. In 1995, 200 students were called for personal interview and out of which only 70 students were finally selected for admission. In 1996, 80 students were selected for admission from a group of 310 students who were called for personal interview".

Question:

a) Present the information in a table form.
b) Write a suitable title for the table.

Exercise 2:

Write 5 (five) sentences based on the following information

	1997	1998
No of BBA graduates in Bangladesh	130	350
No of BBA s employed	105	308
No of BBA s studying MBA	20	40
No of institutions offering BBA program	14	29

Thematic writing questions are aimed at judging the student's imagining capability and theme construction power. Suppose you just hear glimpse of a dialogue between two persons. Hearing just a few words, you will be able to guess what they are talking about. In answering thematic writing questions, you have to utilize this simple skill of yours.

You will be given some words /phrases, and be asked to establish the link and then write paragraph (s) on that theme. The following conditions apply:

- √ Read the words /phrases, assume the link, and decide on a topic or heading for the paragraph (s).
- √ Give a title /heading to the work.
- √ Use the words /phrases at least once in your writing.
- √ Write down on a unified theme that will have coherent sentences.
- √ You can use the words as many times as you wish to.
- √ The last word /phrase of the given list can come at the beginning of your work. You don't have to follow the word sequence given in the question paper.
- √ Follow general guidelines to write a good paragraph, use topic sentence, supporting sentences, and thesis statement.

Sample Question and Answer

Write a paragraph using the following words/phrases:

Sonar Bangladesh	Motherland	Millennium	Autocratic	Calamities
Dreams	Brave	Corruption	Cricket	Pollution

Bangladesh: with hope, with despair

Bangladesh is our motherland. This country was liberated in lieu of three million lives. Our brave freedom fighters defeated the Pakistani aggressors on the 16th December in 1971. We are yet to become a developed and self-dependent country in the world. Since the very birth as an independent nation, Bangladeshi people have fought natural calamities, autocratic regime, and economic hardship. On the verge of the new millennium they are looking forward with great hope and colorful dreams. Our economy is suffering due to corruption and absence of farsighted policies. Pollution, low literacy rate, frequent, natural calamities have given us a peevish image all over the world. Yet we have a lot to be proud of. The natural scenery and mineral resources prove that nature has decorated her darling child with all possible resources. Our culture, our cricket, and our arts & crafts have earned us an honored place in the globe. If we all work hard together to build a happy and wealthy nation, this will definitely pave the way to the building of Sonar Bangladesh.

Now practice with the following words/phrases

1. Bangladesh	Population	Education	Employment	Poverty
Third world	Underdeveloped	Corruption	Natural disaster	Politics

(Try to use a different theme from the sample example)

2. Internet	Website	Browsing	Networking	E-mail
Information	E-commerce	Online Selling	Infrastructure	ISP

Sentence Making

In IBA admission test, you might have to face questions regarding 'sentence making'. To answer these questions, all you have to do is to construct a sentence with the words given in the question. Keep in mind that your sentences should be precise and, of course, grammatically correct. While using the words, be careful so that each word appears to be necessary in the sentence. Do not form a sentence that serves the purpose of using the given words only, try to make a meaningful one. In other words, use the words effectively.

Example: Player, Discipline, Mind.

Answer: A good player must have a disciplined mind.

Practice with the following groups of words.

1. Corruption, essential, society
2. Happiness, achievement, life
3. Friend, money, power
4. Politics, honesty, dignity
5. Education, commodity, nation
6. Canteen, smoking, atmosphere
7. Media, broadcast, impartial
8. Math, English, admission
9. IBA, education, difficult
10. Homes, computer, education
11. Determination, patience, virtue
12. Equation, variable, mathematics
13. Preparation, test, failure
14. Pollution, health, environment
15. Terrorist, war, human

Sentence Re-writing

The sentence re-writing section gives you a number of sentences that may contain errors in grammar, style, or as such. If there is any error in the sentence, you have to correct it. If not, just mention "no error".

Example: The salary of the secretary of this company is more than the manager.

Answer: The salary of the secretary of this company is more than the manager's.

Exercise:

1. Secretaries are usually eligible for higher salaries when they know how shorthand.
2. The first Skylab crew was launched on twenty-fifth May, 1973.
3. During a total eclipse of the sun, that the earth moving into the shadow of the moon.
4. To save on heating and finding cheaper labor are two of the most common reasons that companies give for moving from the Midwest to South.
5. Lotteries are used to raise money for the states that sponsors them.

Chapter 6
Real Questions

MBA (IBA)
with solution

MBA (IBA)

Admission Test Question (2003-2004) with Solution

PART I: MULTIPLE CHOICE QUESTIONS (75 marks)

Section I: Mathematics

Directions: Solve each of the following problems and mark the correct answer on your Answer sheet. **DO NOT USE A CALCULATOR.** *Figures are not drawn to scale.*

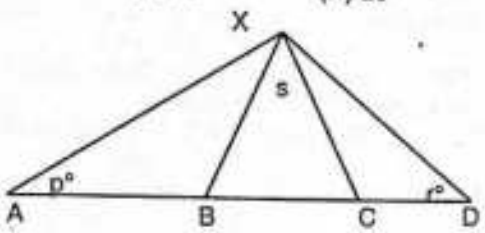
1. If the sales tax on an appliance priced at 300 is between 5 percent and 8 percent, then the selling price (price plus sales tax) of the appliance could be:
(A) 310 (B) 312 (C) 314 (D) 318 (E) 325

2. A circle with radius 2 is intersected by a line at points R and T. The maximum possible distance between R and T is
(A) 1 (B) 2 (C) π (D) 4 (E) 4π

3. Which of the following is the product of two positive integers whose sum is 3?
(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

4. Streets L, M, and N are straight and level, and they intersect to form a triangle. If streets L and M intersect at a 40^0 angle and if street N is perpendicular to street M, at what acute angle do streets L and N intersect?
(A) 30^0 (B) 35^0 (C) 40^0 (D) 45^0 (E) 50^0

5. Which of the following CANNOT be expressed as the sum of the squares of two integers?
(A) 13 (B) 17 (C) 21 (D) 29 (E) 34

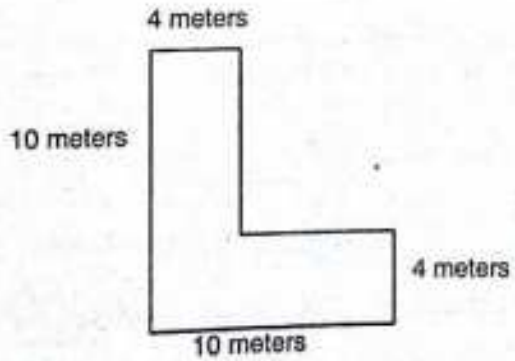


6. If AB= BX and XC = CD in the figure above, what is s in terms of p and r?
(A) $180 - 2(p + r)$ (B) $p + r - 90$ (C) $2(p + r)$ (D) $p + r$ (E) none of these

7. If n is an integer divisible by 6 but not by 4, then which of the following CANNOT be an integer?
(A) n/2 (B) n/3 (C) n/6 (D) n/10 (E) n/12

8. How many positive integers less than 20 are equal to the sum of a positive multiple of 3 and a positive multiple of 4?
(A) Eleven (B) Five (C) Seven (D) Ten (E) none of these

9. The figure below shows the floor dimensions of an L-shaped room. All angles shown are right angles. If carpeting costs Taka 1200 per square meter, what will carpeting for the entire floor of the room cost?
(A) Taka 48,000 (B) Taka 76,800 (C) Taka 96,000 (D) Taka 100,800 (E) Taka 139,200

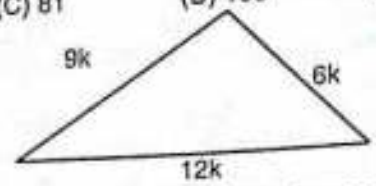


10. A certain machine fills a bag with 7 ounces of potato chips in 3.5 seconds. At this rate how many seconds will it take the machine to fill a bag with 15 ounces of potato chips?
(A) 6.5 (B) 7.0 (C) 7.5 (D) 8.0 (E) 11.5

11. If the value of a certain fraction is equal to 0.4 and the denominator of the fraction is 15, then the numerator of the fraction is
(A) 6 (B) 8 (C) 9 (D) 12 (E) none of these

12. A circular region has circumference c inches and area k square inches. If $c = 3k$, what is the radius of the circle in inches?
(A) $\sqrt{2}/3$ (B) $\sqrt{(2/3)}$ (C) 2/3 (D) $4\pi/9$ (E) none of these

13. If the length of the longest side of the triangle shown below is 36, what is the perimeter of the triangle?
(A) 51 (B) 63 (C) 81 (D) 108 (E) 162



14. If one number exceeds another number by 13 and the larger number is 3/2 times the smaller number, then the smaller number is
(A) 13 (B) 26 (C) 31 (D) 39 (E) 65

15. City B is 5 miles east of City A. City C is 10 miles southeast of City B. Which of the following is the closest distance from City A to City C?
(A) 15 miles (B) 12 miles (C) 13 miles (D) 14 miles (E) none of these

16. If the area of a square increases by 69%, then the side of the square increases by
(A) 13% (B) 30% (C) 39% (D) 69% (E) 130%

17. A shop sold a pair of shoes for Tk. 1600.00 and a pair of sandals for Tk. 960.00. It made a profit of 20% on shoes and took a 10% loss on sandals. The shop made a
(A) loss of 17.8% (B) loss of 15.0% (C) gain of 17.8% (D) gain of 75.3%
(E) None of these

18. How many of the integers between 110 and 120 are prime numbers?
(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

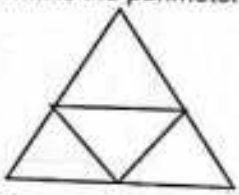
19. If the product of 3 consecutive integers is 120, then the sum of the integers is
(A) 9 (B) 12 (C) 14 (D) 15 (E) 18

20. A car is traveling on a highway. At 10 A.M., it passes a truck traveling in the same direction. The truck continues on the highway traveling at 50 mph while the car travels at 65 mph. How far apart are the car and the truck at 2 P.M.?
(A) 15 Miles (B) 30 Miles (C) 60 Miles (D) 200 Miles (E) 260 Miles

21. A piece of rope is lying on horizontal line. One of its ends is at coordinate -4 and the other is at coordinate 7. What is the length of the rope?
(A) 3 (B) 5 (C) 7 (D) 9 (E) 11

22. The difference between the sum of two numbers and the difference of the two numbers is 6. Find the larger of the two numbers if their product is 15.
(A) 3 (B) 5 (C) 17 (D) 20 (E) 23

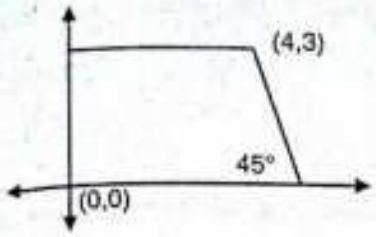
23. The figure below is an equilateral triangle divided into four congruent, small, equilateral triangles. If the perimeter of a smaller triangle is 1, what is the perimeter of the larger triangle?



(A) 2 (B) 4 (C) 6 (D) 8 (E) 16

24. The ratio of girls to boys in a class is 8:7. The number of students in the class could be any of the following except.
(A) 30 (B) 45 (C) 50 (D) 60 (E) 90

25. What is the area of the trapezium in the figure below?
(A) 10.5 (B) 14.5 (C) 16.5 (D) 21 (E) cannot be determined

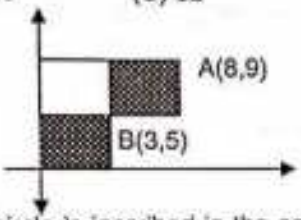


26. If ½ of a number is 3 less than ¾ of the number, what is that number?
(A) 12 (B) 4 (C) 8 (D) 24 (E) 332

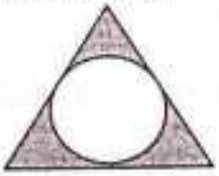
27. An oddly shaped rock having uniform density and weighing 64 grams is broken into two pieces. One of the two pieces weighs 48 grams and has volume of 33 cc. What is the volume of the original rock?
(A) 11 (B) 22 (C) 33 (D) 44 (E) 66

28. If y/3, y/4 and y/7 represent integers, then y can be
(A) 42 (B) 56 (C) 70 (D) 84 (E) 126

29. Points A and B have coordinates as shown in the figure. Find the combined area of the two shaded rectangles.
(A) 20 (B) 26 (C) 32 (D) 35 (E) 87



30. In the figure below, the circle is inscribed in the equilateral triangle. If the diameter of the circle is 2, what is the sum of the shaded area?
(A) $3\sqrt{3}-\pi$ (B) $3\sqrt{3}-4\pi$ (C) $3\sqrt{3}-3\pi/2$ (D) $6\sqrt{3}-3\pi/2$ (E) $108-\pi$



Section II: Analytical Ability **1 x 15 = 15Marks**

Sections: Solve each of the following problems and mark the correct answer on your Answer Sheet.

Questions 1–6

Six friends K, L, M, N, O, and P appeared in a mock admission test consisting of 20 questions. Each of them attempted to answer all twenty questions. For each correct answer, a participant gets one point and for each wrong answer one point is deducted from the participant's score. It was thus possible for participant to have a negative final score.

No two participants obtained the same final score.
K obtained a higher score than L did and a lower score than M did.
N Obtained higher score than M did.
P obtained higher score than K did and a lower score than O did.

1. Which of the following had the lowest score?
(A) K (B) L (C) M (D) O (E) P

2. If N had a lower score than P did, which of the following must have the second highest score?
(A) K (B) M (C) N (D) O (E) P

3. The exact order of the six participants could be determined if which of the following were known to be true?
   (A) M had a higher final score than O did.
   (B) M had a higher final score than P did.
   (C) N had a higher final score than P did.
   (D) O had a higher final score than M did.
   (E) O had a higher final score than N did.
4. If none of the participant could answer the two hardest questions correctly, the highest final score that any participant could have obtained is
   (A) 18 (B) 17 (C) 16 (D) 15 (E) none of these
5. If the next-to-lowest final score was 0 (zero), and if O scored the highest score, the lowest possible score of M could be
   (A) 14 (B) 12 (C) 10 (D) 8 (E) 6
6. If the lowest scorer had answered fifteen questions correctly, and if O finished immediately ahead of M in the final-score standing, which of the following must be the participant whose final score was sixteen?
   (A) K (B) M (C) N (D) O (E) P

Questions 7 - 9

IBA has five guards F, G, H, I, and J. Each day exactly one guard is on duty. The guards are assigned duty according to the following conditions:

Each guard is assigned duty at least one day a week
I is always assigned duty only on Sunday.
No guard is assigned duty on two consecutive days.
F and G cannot work on consecutive days.

7. If during one week, F is assigned duty on Monday and Saturday only, which of the following must be true of the assignments for the week?
   (A) One other guard besides F is assigned duty on two days.
   (B) The guard assigned duty on Wednesday cannot be assigned duty on Friday.
   (C) Either G or H is assigned duty on Tuesday.
   (D) Either H or J is assigned duty on Friday.
   (E) H cannot work on Tuesday.
8. If H is assigned duty on Monday and Thursday, which of the following must be true?
   (A) F cannot be assigned duty on Tuesday.
   (B) J cannot be assigned duty on Tuesday.
   (C) F cannot be assigned duty on two days for that week.
   (D) J cannot be assigned duty for two days on that week.
   (E) all of them must be true.
9. Which of the following is true?
   (A) Both F and G can be assigned duty for two days
   (B) J cannot be assigned duty for three days.
   (C) If F is assigned duty for two days, G cannot be assigned duty for two days.
   (D) J must work on Monday.
   (E) (E)none of these.

Questions 10 & 11 are based on the following:

- A causes B or C, but not both.
- F occurs only if B occurs.
- D occurs if B or C occurs.
- E occurs only if C occurs.
- J occurs only if E or F occurs.
- D causes G, H, or both.
- H occurs if E occurs.
- G occurs if F occurs.

10. If B occurs which must occur?
(A) F and G (B) D and G (C) D (D) G and J (E) All of them

11. Which may occur as a result of a cause not mentioned?
I D
II. A
III. F
(A) I only (B) II only (C) I and II (D) II and III (E) I, II and III

12. If Elahi is on the sub-committee, then he is on the executive committee. This statement can be logically deduced from which of the following statement?
(A) All members of the executive committee are on the sub-committee.
(B) Elahi is on either the executive committee or on the sub-committee.
(C) Everyone who is on the sub-committee is also on the executive committee.
(D) Some members of the executive committee are on the sub-committee.
(E) Elahi is on the executive committee.

13. If u > t, r > q, s > t, and t > r, which of the following must be true?
I. u>s II. s>q III. u>r
(A) I only (B) II only (C) III only (D) I and II (E) II and III

14. A man is standing in front of a painting of a man, and he tells us the following: "Brothers and sisters have I none, but this man's father is my father's son". Who's on the painting"?
(A) his uncle (B) his brother (C) his son (D) himself (E) any man

15. Four friends (Selim, Javed, Dipu, and John) had a race to see who could cross a distance of 100 meter in the least amount of time. Selim was faster than Javed, and Dipu beat john but came in behind Javed. Who came in last?
(A) Selim (B) Javed (C) Dipu (D) John (E) Selim and Dipu

Section III: Language& Communication — 1 × 30 = 30 Marks

Questions 1- 3

Directions: A certain portion of the following sentences are underlined. If that portion is incorrect; then choose the best answer from the options. If no error exists, mark A on the answer sheet.

1. Neither Mr. Karim nor his friends is invited to speak at the seminar.
(A) is invited to speak at the seminar (B) are invited to speak at the seminar
(C) is speaking at the seminar (D) are speaking at the seminar
(E) will speak at the seminar.

2. Whatever he aspired to achieve, they were hindered by his jealous stepbrothers.
(A) Whatever he aspired to achieve, they
(B) Whatever he had any aspirations to, they
(C) Whatever aspiration he had
(D) Whatever be his aspiration, they
(E) Many of his aspirations and goals

3. Men's interests in developing a cure for cancer have promoted the rapid advances in the field of generic Engineering.
(A) Men's interest in developing a cure for cancer have promoted
(B) Men's interest for developing a cure for cancer has promoted
(C) That man is interested in developing a cure for cancer have promoted
(D) Interest in developing a cure for cancer have promoted
(E) Men's interest in developing a cure for cancer ha promoted

Questions 4–7

Direction: From the underlined words or phrases in each sentence, select the one that needs correction.

4. The office memoranda was (A) circulated, but nobody (B) responded, hence, (C) few suppliers (D) were ordered. No Error (E)

5. In ancient times many people believed that the earth is motionless. No Error
   A B C D E
6. Among Rupa, Anushaka and me there is no secret. No Error
   A B C D E
7. Mathematics is his favorite subject; he finds them very interesting. No Error
   A B C D E

Questions 8 – 12

Directions: A related pair of words or phrases is followed by five pair of words or phrases. Select the pair that best expresses a relationship similar to that expressed in the original pair.

8. **DEARTH : PAUCITY**
   (A) huge : empty (B) scarcity : shortage (C) gentle : rude
   (D) large : short (E) punctual : late
9. **ASSET : LIABILITY**
   (A) son : daughter (B) principal : interest (C) export : import
   (D) management : union (E) master : servant
10. **SEE : INVISIBLE**
    (A) correct : inverted (B) hear: inaudible (C) coal : mine
    (D) buy : invaluable (E) escape : inaccessible
11. **STEAM : GEYSER**
    (A) power : generator (B) toms : re ctor (C) coal : mine
    (D) lava : volcano (E) rock : q...
12. **CUSTOMER : SHOPKEEPER**
    (A) patron : concert (B) member : club (C) advocate : policy
    (D) peddler : house (E) client : lawyer

Questions 13 - 17

Directions: The following sentences have certain segments which are to be filled from the following options provided. Select the correct option.

13. Her_____ smile_____ all those who saw it.
    (A) devastating, blinded (B) penultimate, inured (C) radiant, obliged
    (D) sunny, tanned (E) bright, dazzled
14. According to recent studies, prices in supermarkets are considerably higher in the inner city, thus _____ the poor who receive assistance to buy the food.
    (A) reprimanding (B) intimidating (C) alleviating
    (D) assuaging (E) exploiting
15. Since there are so few conservative thinkers on the committee, their influence on its recommendations is _____.
    (A) monumental (B) negligible (C) discriminatory
    (D) impractical (E) cathartic
16. It has been proven that cockroaches _____ for several weeks even after their heads have been cut off.
    (A) are surviving (B) can survive (C) surviving
    (D) that survive (E) survives
17. _____ the young man chose to retain his seat on the crowded bus and let the old woman remain standing.
    (A) Gleefully (B) Hopefully (C) Painfully
    (D) Foolishly (E) Selfishly

Questions 18 - 22: Antonyms

Directions: For each word written in capital letter, select a word having the **opposite** meaning.

18. **TRIVIAL**
    (A) innocent (B) refuse (C) dark (D) significant (E) repeat
19. **PERIPHERAL**
    (A) cordial (B) inaugural (C) immoral (D) cyclical (E) central

24. MALIGN (A) cease	(B) drenched	(C) reply	(D) praise	(E) Worthless
25. COHERENT (A) soaked	(B) inundate	(C) trapped	(D) stealthily	(E) illogical
26. EFFICACY (A) inmate	(B) intimacy	(C) dark	(D) inefficiency	(E) applaud

Questions 23 - 27: Synonyms

Directions: For each word written in capital letter, select a word having the **similar** meaning.

23. ANECDOTE (A) antidote	(B) article	(C) anger	(D) fable	(E) arrive
24. PERTURB (A) reverend	(B) dream	(C) repeat	(D) tutor	(E) arrive
25. REITERATE (A) reverend	(B) dream	(C) repeat	(D) tremor	(E) misery
26. RAMIFICATION (A) precision	(B) consequences	(C) report	(D) cognizance	(E) legality
27. INADVERTENT (A) unintentional	(B) inadequate	(C) inertia	(D) inundate	(E) ingest

Questions 28-30: Fill-in the gaps

Directions: Select a word or words, which will appropriately fill-in the gap in each sentence.

28. The aging spinster was much_____ by the _____ of her favorite niece.
(A) perplexed : attention (B) heartened : ministration (C)discouraged : propriety
(D) enamored : ruminations (E) pleased : aloofness.

29. Although Mujtaba dislikes crowd and social gatherings, his wife Shalla is quite_____
(A) gregarious (B) aloof (C) hostile (D) reclusive (E) estranged

30. I can think of nothing more_____ than arriving at the theatre and discovering that I had left the tickets at home.
(A) viscous (B) banal (C) dramatic (D) traumatizing (E) vexatious

PART II: WRITTEN ENGLISH [25 marks]

1. For each of the following words, name another word with a similar meaning. The hints in parentheses may help you. **[5 marks]**
   a. procure (a 3-letter word starting with g)
   b. construct (a 5-letter word starting with b)
   c. render (a 4-letter word starting with g)
   d. apprehend (a 5-letter word starting with c)
   e. demonstrate (a 4-letter word starting with s)

2. Rewrite the following letter. Paragraph it correctly and use connecting words that will aid clarity and make the ideas flow better. **[10 marks]**

Your Order 7432 for erasers and sharpeners has been received today. We do not manufacture erasers. We cannot fill your order. We looked up the nearest producer. We found it to be the XYZ Company. Their address is 701 High Street, Dhaka, Bangladesh. We are sending you a catalog of our products. Perhaps we can be of further service to you in the future. Thank you for writing to us.

3. **"Globalization is beneficial to Bangladesh".** Write your arguments either for or against the above statement within the space provided. **[10 marks]**

ANSWER KEY

Section I

1	D	2	D	3	C	4	E	5	C	6	A	7	E	8	D	9	B	10	C
11	A	12	C	13	C	14	B	15	D	16	B	17	E	18	B	19	D	20	C
21	E	22	B	23	A	24	C	25	C	26	A	27	D	28	D	29	D	30	A

Section II

1	B	2	E	3	A	4	C	5	E	6	B	7	D	8	C	9	C	10	E
11	B	12	C	13	E	14	D	15	D										

Section III

1	B	2	C	3	E	4	A	5	E	6	B	7	C	8	B	9	C	10	B
11	D	12	E	13	E	14	E	15	B	16	B	17	E	18	D	19	E	20	D
21	E	22	D	23	D	24	C	25	C	26	B	27	A	28	B	29	A	30	E

Solution of MBA Admission Test 2003 – 04

Section-I: Mathematics

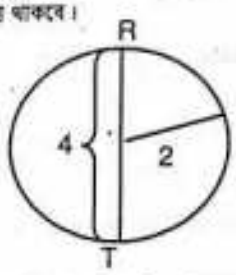
1. Price = 300 টাকা

tax 5% হলে cost = $300 + \left(300 \times \frac{5}{100}\right) = 315$ টাকা

tax 8% হলে cost = $300 + \left(300 \times \frac{8}{100}\right) = 324$ টাকা

অর্থাৎ, cost 315 টাকা হতে 324 টাকার মধ্যে থাকবে। সুতরাং answer: D.

2.

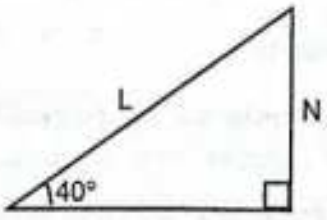


Maximum possible distance = diameter = 2 + 2 = 4 সুতরাং answer: D.

3. দুটি ধনাত্মক পূর্ণসংখ্যার যোগফল 3 অর্থাৎ সংখ্যাদ্বয় 2 ও 1. অতএব, তাদের গুণফল = 2 × 1 = 2

সুতরাং answer: C.

4.

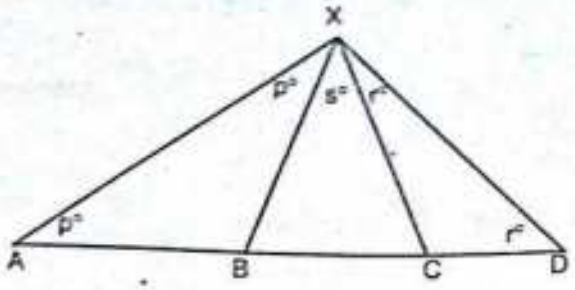


$180° - (90° + 40°) = 180° - 130° = 50°$ সুতরাং answer: E.

5. $13 = 9 + 4 = 3^2 + 2^2$
$17 = 16 + 1 = 4^2 + 1^2$
21 = cannot be expressed as the sum of the squares of 2 integers.
$29 = 25 + 4 = 5^2 + 2^2$
$34 = 25 + 9 = 5^2 + 3^2$

সুতরাং answer: C.

6.

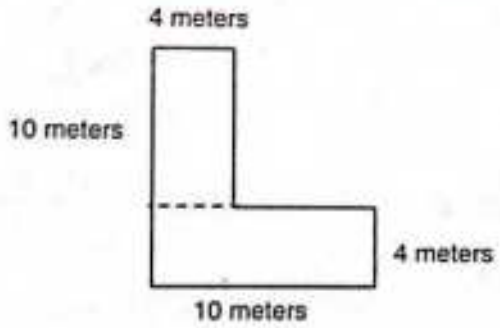


AB = BX; অর্থাৎ, $\angle p = \angle AXB$
XC = CD; অর্থাৎ $\angle r = \angle CXD$
তাহলে, ΔAXD এ $p + r + (p + s + r) = 180°$
$\Rightarrow 2p + 2r + s = 180° \Rightarrow s = 180° - 2p - 2r$
$\Rightarrow s = 180° - 2(p + r)$ সুতরাং answer: A.

7. n, 6 দ্বারা বিভাজ্য কিন্তু 4 দ্বারা নয় যেমন, 18, 30, 42 ইত্যাদি n এর মান হতে পারে। এরা যেহেতু জোড় সংখ্যা এবং 6 দ্বারা বিভাজ্য তাই 2, 3, 6 দ্বারাও বিভাজ্য হবে। 30, 10 দ্বারা বিভাজ্য। কিন্তু এরা 12 দ্বারা কখনই বিভাজ্য হবে না।
সুতরাং answer: E.

8. 20 এর চেয়ে ছোট positive multiples of 3 = 3, 6, 9, 12, 15, 18
20 এর চেয়ে ছোট positive multiples of 4 = 4, 8, 12, 16.
ছোট করলে দেখা যায়, 3 + 4 = 7, 3 + 8 = 11, 3 + 12 = 15, 3 + 16 = 19;
6 + 4 = 10, 6 + 8 = 14, 6 + 12 = 18;
9 + 4 = 13, 9 + 8 = 17;
12 + 4 = 16;
15 + 4 = 19.
ছোট positive integer = 7, 10, 11, 13, 14, 15, 16, 17, 18, 19
= 10 টি সুতরাং answer: D.

9.



উপরের অংশের area = $6 \times 4 = 24$ sq.m
নীচের অংশের area = $4 \times 10 = 40$ sq.m
∴ মোট area = 40 + 24 = 64 sq. m.
∴ total cost = (64 × 1200) টাকা = 76,800 টাকা সুতরাং answer: B.

10. 7 ounce এর জন্য সময় লাগে 3.5 sec
1 ounce এর জন্য সময় লাগে 3.5/7 sec = ½ sec

15 ounce এরজন্য সময়লাগে $\left(\frac{15}{2} = 7.5\right)$ =7.5 sec, সুতরাং answer: C.

11. $0.4 = \frac{4}{10} = \frac{x}{15}$ সুতরাং answer: A.

$\Rightarrow 10x = 60 \Rightarrow x = 6$

12. $2\pi r = C = 3K \quad \Rightarrow K = \frac{C}{3}$

প্রশ্নমতে, $\pi r^2 = K \quad \Rightarrow \pi r^2 = \frac{C}{3} \Rightarrow \pi r^2 = \frac{2\pi r}{3} \Rightarrow 3\pi r^2 = 2\pi r$

$\Rightarrow 3r = 2 \Rightarrow r = \frac{2}{3}$ সুতরাং answer: C.

13. $12K = 36$ হলে $K = 3$

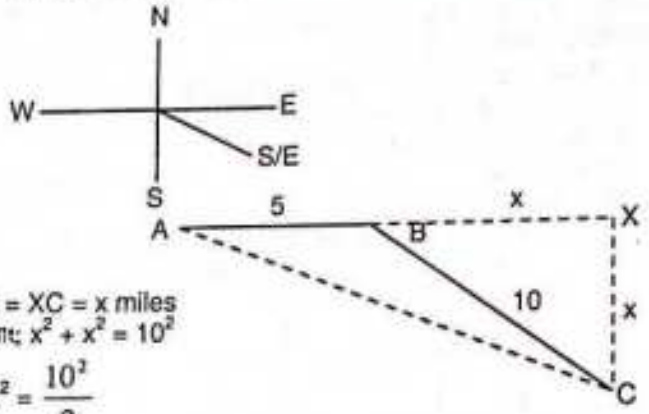
perimeter $= 12K + 9K + 6K = 27K = 27 \times 3 = 81$ সুতরাং answer: C.

14. ধরি, smaller number = x

$\therefore$ larger number $= \frac{3x}{2}$

প্রশ্নমতে, $\frac{3x}{2} = X + 13 \Rightarrow 3x = 2x + 26 \Rightarrow x = 26$। সুতরাং answer: B.

15.



BX = XC = x miles

সুতরাং $x^2 + x^2 = 10^2$

$\Rightarrow x^2 = \frac{10^2}{2}$

$\Rightarrow x = 10/\sqrt{2}$

$AC^2 = (5 + x)^2 + x^2$

$\Rightarrow AC^2 = 5^2 + 2.x.5 + x^2 + x^2$

$= 25 + 10x + 2x^2$

$= 25 + 100/\sqrt{2} + 100$

$= 125 + 100\sqrt{2}$

$= 125 + 100/1.414$ ($\sqrt{2} = 1.414$)

$= 125 + 70.7$

$= 195.7$

যেহেতু closest answer টি choose করতে বলা হয়েছে, এবং যেহেতু সুতরাং $14^2 = 196$

$\therefore AC = \sqrt{195.7} = 14$ (Approximate) answer: D.

16. ধরি, area ছিল 100π

অর্থাৎ, $\pi r^2 = 100\pi = 10^2\pi \Rightarrow r = 10$

এখন, area $= 169\pi$

অর্থাৎ, $\pi r^2 = 169\pi = 13^2\pi \Rightarrow r = 13$

অর্থাৎ, Increase in radius $= \frac{13-10}{10} \times 100 = 30\%$. সুতরাং answer: B.

17. 20% profit এ,
Cost price 100 হলে selling price = 120
বা S.P 120 হলে cost = 100
∴ S.P 1600 হলে cost = $\frac{100\times1600}{120}$ = 1333.33 টাকা

10% loss এ,
cost 100 হলে S.P = 90 টাকা
বা, S.P 90 হলে cost = 100 টাকা
∴S.P 960 হলে cost = $\frac{100\times960}{90}$ = 1066.66 টাকা

Total cost = (1333.33 + 1066.66) টাকা = 2400 টাকা
Total S.P. = (1600 + 960) টাকা = 2560 টাকা
∴profit = $\left(\frac{2560-2400}{2400}\times100\right)\% = \frac{160\times100}{2400}\% = 6.67\%$ সুতরাং answer: E.

18. 110 ও 120 এর মধ্যে prime no.হচ্ছে- 113. (119 is not a prime, 119/7 = 17)
সুতরাং answer : B.

19. 120 এর উৎপাদকগুলো হচ্ছে, 1, 2, 3, 4, 5, 6 ইত্যাদি।
4, 5 ও 6 কে গুণ করলে 120 হয়।
4 + 5 + 6 =15
সুতরাং answer: D.

20. গাড়িটি 10 am এ truck কে cross করলো।
2pm এ গাড়ি যাবে (65 × 4) মাইল = 260 মাইল
2pm এ track যাবে = (50 × 4) মাইল = 200 মাইল
∴ distance = (260 – 200) = 60 মাইল
সুতরাং answer: C.

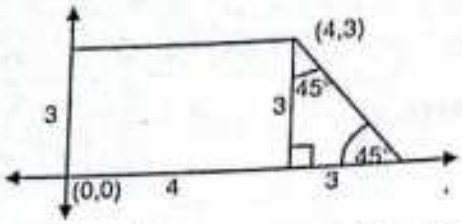
21. length of rope = 7 – (–4) = 11
সুতরাং answer: E.

22. ধরি, larger no. = x
∴smaller no = $\frac{15}{x}$
প্রশ্নমতে, $x + \frac{15}{x} = \left(x - \frac{15}{x}\right) + 6 \quad \Rightarrow \frac{x^2+15}{x} = \frac{x^2-15}{x} + 6$
$\Rightarrow \frac{x^2+15}{x} = \frac{x^2-15+6x}{x} \Rightarrow x^2 + 15 = x^2 - 15 + 6x$
$\Rightarrow 6x = 30 \Rightarrow x = 5$
সুতরাং answer: B.

23. সবগুলো যদি সমবাহু (equilateral) ত্রিভুজ হয় তাহলে প্রত্যেকটি বাহুর দৈর্ঘ্য সমান। একেকটি বাহুর দৈর্ঘ্য $\frac{1}{3}$; অতএব বড় ত্রিভুজটির
পরিসীমা = $\left(\frac{1}{3}+\frac{1}{3}\right)+\left(\frac{1}{3}+\frac{1}{3}\right)+\left(\frac{1}{3}+\frac{1}{3}\right) = \left(\frac{6}{3}\right) = 2$
সুতরাং answer: A.

24. Ratio = 8:7
যোগফল = 8 + 7 = 15
অর্থাৎ, মোট সংখ্যা 15 দ্বারা বিভাজ্য হবে।
অতএব, 50 মোট ছাত্রসংখ্যা হতে পারবেনা।
সুতরাং answer: C.

25.



Trapezium এর area = $\frac{1}{2}$ × সমান্তরাল বাহুদ্বয়ের সমষ্টি × উচ্চতা = $\frac{1}{2} \times (4+7) \times 3 = 16.5$

সুতরাং answer: C.

26. ধরি, no টি = x

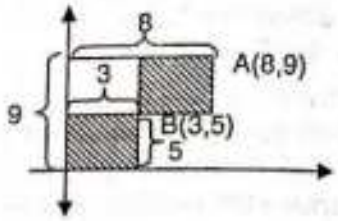
প্রশ্নমতে, $\frac{x}{2} = \frac{3x}{4} - 3 \Rightarrow \frac{3x}{4} - \frac{x}{2} = 3 \Rightarrow x = 12$ সুতরাং answer: A.

27. 48 gram এর volume = 33 cc

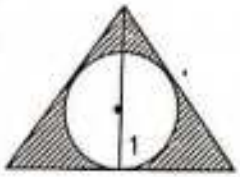
∴64 gram এর volume = $\frac{33 \times 64}{48}$ c.c = 44 c.c সুতরাং answer: D.

28. y হবে এমন একটি সংখ্যা যা 3, 4, 7 দ্বারা বিভাজ্য। যেমন, 84. সুতরাং answer: D.

29. উপরের shaded rectangle এর area = 5 × 4 = 20
নিচের shaded rectangle এর area = 3 × 5 = 15
∴মোট area = 20 + 15 = 35 সুতরাং answer: D.



30. Circle এর diameter 2 হলে radius = 1
অর্থাৎ,area = $\pi r^2 = \pi$



সমবাহু ত্রিভুজের ভেতর অঙ্কিত কোন বৃত্তের ক্ষেত্রফল πr^2 হলে, উক্ত ত্রিভুজের ক্ষেত্রফল = $3\sqrt{3}r^2$.

∴ত্রিভুজের area = $3\sqrt{3}(1)^2 = 3\sqrt{3}$

অর্থাৎ, shaded portion এর area = $3\sqrt{3} - \pi$ সুতরাং answer: A.

Section - II: Analytical Ability

Questions 1-6

K, L, M, N, O, P – এই ছয় বন্ধু একটি পরীক্ষা দিয়েছে যেখানে ২০টি প্রশ্নছিল। তারা প্রত্যেকে প্রত্যেকটি প্রশ্নের উত্তর দিয়েছে। শুদ্ধ উত্তরের জন্য তারা ১ পয়েন্ট পাবে, ভুল উত্তরের জন্য ১ পয়েন্ট করে কাটা যাবে। অর্থাৎ, মোট স্কোর negative হওয়ার সম্ভব। কিন্তু শর্ত দেয়া আছে-

– কোন দু'জন পরীক্ষার্থী একই final score পায়নি।
– N > M
– –K > L but K < M
– P > K but P < O

এ থেকে পাই, O > P > K > L এবং
N > M > K

1. দেখা যায়, L এর score সবচেয়ে কম।
2. যদি N < P হয়, তাহলে-
O > P > N > M > K > L অর্থাৎ 2nd highest score হচ্ছে P এর। সুতরাং answer: B.
3. M এর score যদি O এর চেয়ে বেশি হয় তবে, N > M > O > P > K > L এটিই একমাত্র option. সুতরাং answer: E.

সুতরাং answer: A.

4. কেউই যদি 2 টি প্রশ্নের সঠিক উত্তর না দিয়ে থাকে, highest possible score = (20 – 2) – (1 × 2)
= 18 – 2 = 16
সুতরাং answer: C.

5. শর্তানুযায়ী next-to-lowest score 0 (zero) হলে lowest final score হবে 2
0 (zero) score অর্থাৎ হয়তবা correct answer 10 এবং wrong answer 10
সুতরাং final score = 10 – 10 = 0। আবার correct answer 11 হলে wrong হবে 9।
সুতরাং final score হবে 11 – 9 = 2.....এভাবে possible score- গুলি হবে 2, 4, 6, 8, 10
12,14,16,18 এবং 20 ।
অর্থাৎ highest score হচ্ছে 20- যা O পেয়েছে। অতএব (i) ও (ii) equation- অনুযায়ী K এবং L এ score হবে যথাক্রমে 4 এবং 2। তাহলে lowest possible score of M could be 6।
সুতরাং answer: E.

6. Lowest scorer এর score = 15 – 5 = 10
O যদি ঠিক M এর উপরে থাকে, তাহলে, N > O > M > P > K > L হবে।
20 > 18 > 16 > 14 > 12 > 10, অর্থাৎ, M এর score 16 হবে। সুতরাং answer: B.

Questions 7 – 9

IBA তে ৫ জন গার্ড আছে। প্রতিদিন ঠিক ১ জন ডিউটি দেয় নিচের শর্তানুযায়ী:

- সপ্তাহে কমপক্ষে ১দিন প্রত্যেককে ডিউটি দিতে হয়।
- I শুধুমাত্র Sunday তে ডিউটি দেয়।
- পরপর ২দিন কারো ডিউটি থাকেনা।
- F ও G পরপর ২দিন ডিউটি দিতে পারবে না।

7. F এর ডিউটি যদি Monday এবং Saturday তে পড়ে, তাহলে Sunday, Tuesday এবং Friday তে F বা G কেউ ডিউটি দিতে পারবে না। I রোববার ছাড়া ডিউটি দেয়না। অর্থাৎ Tuesday ও Friday তে H বা J কে ডিউটি দিতে হবে।
সুতরাং answer: D.

8.

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
I	H	J/F/G	J/F/G	H	J/F/G	J/F/G/H

F যদি Tuesday তে থাকে, Wednesday তে J থাকবে।
F যদি Wednesday তে থাকে, Tuesday তে J থাকবে।
F যদি Friday তে থাকে, Saturday তে J থাকবে।
F যদি Saturday তে থাকে, Friday তে J থাকবে।
অর্থাৎ, F কে দুই বার নিলে J কেও ২ বার নিতে হয়, সেক্ষেত্রে G এর কোন ডিউটি থাকেনা। তাইF ২ বার ডিউটি দিতে পারবে না।
সুতরাং answer: C.

9. F দুইদিন থাকলে G এর পক্ষে দুইদিন থাকা সম্ভব নয়,কারণ তারা একজনের পরের দিন অপরজন কাজ করবেনা। তাই ৬ দিনে (রোববার I এরজন্য বরাদ্দ) তাদেরকে চার বার ডিউটি দেয়ানো কোনভাবেই সম্ভব নয়।
সুতরাং answer: C.

10. B ঘটলে আমরা দেখতে পাই F ঘটে, D ঘটে। আবার F ঘটলে G ঘটে। অর্থাৎ, B ঘটলে F, D, G, J ৪টিই ঘটে।
সুতরাং এই question এর answer:E.

11. A কিভাবে ঘটবে সেটার কারণ mention করা নেই।সুতরাং answer: B.

12. ইলাহিযদি sub-committee তে থাকে, তবে সে executive committee তেও থাকবে। অর্থাৎ, sub-committee এর সব সদস্য executive committee তে থাকবে। কিন্তু executive committee এর সব সদস্য sub-committee তে থাকা বাধ্যতামূলক নয়। সুতরাং answer: C.

13. s > t > r > q এবং u > t > r > q অর্থাৎ u এবং s এরমধ্যে কে বড় বলা যায়না। বাকি দুটি obvious.
সুতরাং answer: E.

14. Himself. সুতরাং answer: D.

15. S>Javed, D > John but D <Javed; অর্থাৎ,Selim>Javed>Dipu> John
সুতরাং answer: D.

Section-III: Language & Communication

1. Neither----- nor rule অনুসারে verb এর nearest subject অনুযায়ী verb এর person determined হয়। এক্ষেত্রে "his friends" verb "is" এর nearest subject. answer choice (B)
2. Answer হবে (C).
3. এখানে দুটো point খেয়াল করতে হবে। (1) preposition এবং (2) subject. এক্ষেত্রে interest এর সাথে proper preposition 'in' এবং subject টি হবে singular "has". সুতরাং; Answer হবে (E).
4. Memoranda word টি plural. So proper subject হবে were. সুতরাং; answer (A).
5. Answer (E).
6. এখানে me এর জায়গায়, me একsubject form I হবে কারণ pronoun subject এর সাথে তুলনাক রায় চেছ। Correct pronoun হবে 'I'. Answer (B)
7. এখানে, pronoun বসবে subject mathematics এরজন্য, যেটি singular. So them এর স্থলে It হবে। Answer (C).
8. Dearth এবং Paucity পরস্পরের synonyms. সুতরাং একই relation আছে Answer (B) তে।
9. Asset এবং liability antonym, master : servant antonym হলেও এক্ষেত্রে relationship ভিন্নধাচের। সুতরাং answer choice (C).
10. Invisible এর relationship টাএমনহতেপারে যে, what is invisible can't be seen. একই relation পাওয়াযায় choice (B) তে। What is inaudible cannot be heard. Answer (B).
11. এখানে relation sentence হতে পারে। Geyser থেকে Steam নির্গত হয়। একই ভাবে, volcano থেকে lava নির্গত হয়। সুতরাং answer choice (D).
12. A shopkeeper entertains customer একইভাবে, A lawyer entertains clients.(E).
13. Bright অর্থ উজ্জ্বল, এবং dazzled mean করেছে চমৎকৃত করা, so, answer (E).
14. এখানে, sentence এর theme এর সাথে সবচেয়ে appropriate meaning হচ্ছে exploiting (ব্যবহার করে ফায়দা লোটা) Answer (E)
15. Sentence এরভিতে conservative thinker দের number বলা হয়েছে নগন্য। So, তাদের influence খুবই নগন্য হবে। Answer Negligible. (B)
16. এখানে cockroaches এর ability এর কথা বলা হচ্ছে। তাই answer (B).
17. Sentence টি young man এর স্বার্থপরতার কথা indicate করেছে। answer হবে selfishly (E).
18. Trivial অর্থ নগন্য, উল্লেখযোগ্য নয়। Antonym হবে significant. Answer (D).
19. Peripheral অর্থ সীমান্তবর্তী। Antonym "Central". Answer (E).
20. Malign অর্থ নিন্দা করা, opposite "Praise". Answer (D).
21. Coherent অর্থ সামঞ্জস্যপূর্ণ, opposite illogical. Answer (E)
22. Efficacy অর্থ দক্ষতা, opposite inefficiency. Answer (D).

23. Anecdote অর্থ short story, synonyms : fable. Answer (D).

24. Perturb অর্থ বিরক্ত করা, synonyms: Agitate. Answer (C).

25. Reiterate অর্থ বারবার বলা/ করা, synonyms : Repeat. Answer (C).

26. Ramification অর্থ consequence (ফলাফল) Answer (B).

27. Inadvertent অর্থ done without thinking. Synonym: unintentional. Answer (A).

28. এখানে যুদ্ধের বিধ্বংসকর অভিজ্ঞতার কথা বলা হয়েছে। Ministration অর্থ care, heartened অর্থ খুশি হওয়া, মুক্ত হওয়া. So answer (B).

29. এখানে যে word টি বসবে তা হবে social বা friendly এর সমার্থক কিছু। সুতরাং answer (A).

30. Answer (E).

MBA (IBA)

Admission Test Question (2004-2005) with Solution

PART I: MULTIPLE CHOICE QUESTIONS (MCQ)

Section I: Mathematics

Instructions: solve each of the following problems and mark the correct answer on your Answer sheet.

DO NOT USE A CALCULATOR. *Figures are not drawn to scale.*

1. In a survey of the people in Chittagong, it was found that 65% of the people surveyed watched the news on television, 40% read a newspaper, and 25% read a newspaper and watched the news on television. What percent of the people surveyed neither watched the news on television nor read a newspaper?
A) 0% B) 5% C) 10% D) 15% E) 20%

2. A post office imposes a service charge of Tk. 75 per order on any money order in the amount of Tk. 2500 or less, and Tk. 100 per order on any money order in amount from Tk. 2501 through Tk. 70000. If Mariam purchases 3 money orders in the amounts of Tk. 1825, Tk. 2500, and Tk. 12750, what is the total service charge for her money orders?
A) 175 B) 225 C) 250 D) 275 E) 300

3. A time-study specialist has set the production rate for each worker on a certain job at 22 units every three hours. At this rate what is the minimum number of workers that should be put on the job if at least 90 units are to be produced per hour?
A) 5 B) 8 C) 12 D) 13 E) 30

4. In a room, all except 18 of the people are above 50 years of age. If 15 of the people in the room are under 50 years of age, how many people are in the room?
A) 27 B) 30 C) 33 D) 36 E) can't be determined

5. Nine pieces of paper numbered consecutively from 1 to 9 are put into a box. If a piece of paper is drawn at random from the box, what is the probability that it will have a number greater than 6?
A) 1/9 B) 1/3 C) 2/9 D) 5/9 E) ½

6. The cost of four rolls, six samuchas and three loaves of bread is Taka 91. the cost of two rolls, three samuchas and a loaf of bread is Taka 39. what is the cost (in taka) of a loaf of bread.
A) 10.50 B) 11.00 C) 12.00 D) 12.50 E) 13.00

7. A car traveled 75% of the way from town A to town B at an average speed of 50 miles/hour. The car travels at an average speed of S miles/hour for the remaining part of the trip. The average speed for the entire trip was 40 miles/hour. What is S?
A) 10 B) 20 C) 25 D) 30 E) 37.5

8. Maruf, Jasim and Khalil had lunch together. Khalil's meal cost 50% more than Jasim's meal and Maruf's meal cost 5/6 as much as khalil's meal. If jasim paid Tk. 1000 for his meal, what was the total that the three of them paid for lunch?
A) 2833 B) 3000 C) 3500 D) 3750 E) 4000

9. Jalal started work 2 years ago. His starting salary was ½ of Millat's salary at that time. Each year since then Jalal has received a raise of 5% in his salary and Millat has received a raise of 10% in his salary. What percentage (to the nearest percent) of Millat's current salary is jalal's current salary?
A) 45 B) 46 C) 48 D) 50 E) 220

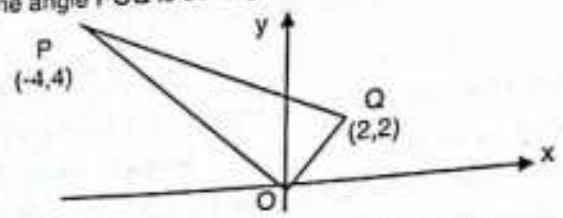
10. 70 students are enrolled in management, Accounting and Marketing. 40 students are in Management, 35 are in Accounting, and 30 are in Marketing. 15 students are enrolled in all three courses. How many of the students are enrolled in exactly two of the courses?
A) 8 B) 5 C) 6 D) 9 E) 7

11. Recently, Sohan's hourly wage has been increased by 10 percent. Before this increase, Sohan's total weekly wage was $ 137. if his weekly hours were to decrease by 10 percent from last week's total hours, what would be the change, if any, in sohan's total weekly wage?
A) An increase of $ 1.37 B) An increase of $ 0.55 C) No change
D) A decrease of $ 0.55 E) A decrease of $ 1.37

12. If $3 < x < 8$ and $5 < y < 11$, which of the following represents all possible values of xy?
A) $3 < xy < 11$ B) $8 < xy < 19$ C) $15 < xy < 88$ D) $24 < xy < 55$ E) $33 < xy < 40$

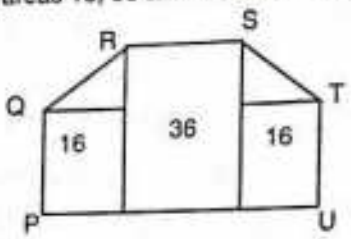
13. A store has five shelves and average weekly sale is Tk. 30000. shelf 1 accounted for ¼ of the store's average weekly sales and shelves 2 and 3 each accounted for 2/3 as much as shelf 1. the shelf 4 alone accounted for as much as shelf 1, then which of the flowing could have been the average weekly sales of shelf 5 for the store?
A) 5000 B) 6500 C) 10000 D) 11000 E) 12500

14. In the figure below, the angle POQ is 90 degrees. What is the perimeter of the triangle OPQ?



A) $4\sqrt{2}$ B) $8\sqrt{2}$ C) $6 + 2\sqrt{5}$ D) $6 + 6\sqrt{2}$ E) $2\sqrt{10} + 6\sqrt{2}$

15. The following region PQRSTU consists of three square regions and two triangular regions. If the square regions have areas 16, 36 and 16, what is the perimeter of PQRSTU?



A) $22 + \sqrt{5}$ B) $28 + 2\sqrt{5}$ C) $28 + 4\sqrt{5}$ D) $34 + 2\sqrt{5}$ E) $34 + 4\sqrt{5}$

16. Of the 400 students in a graduating class, 30 percent were women and, of these, one-fifth became instructors. If the number of men who became instructors was twice the number of women who became instructors, how many of the men became instructors?
A) 120 B) 48 C) 40 D) 24 E) 20

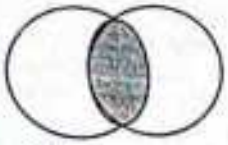
17. Which of the following has the largest area?
I. A circle of radius $\sqrt{2}$
II. An equilateral triangle of side 4
III. A triangle whose sides are 3, 4 and 5.
A) I only B) II only C) III only D) I and II E) II and III

18. The average of a set of 12 number, which includes 34, is N. if 34 is removed from the set and 38 is added to the set, what is the average of the new set of number?
A) N + 1/3 B) N + 19/6 C) N + 4 D) N+ 6 E) 12N + 4

19. If the area of a rectangular is equal to the area of a square, then the perimeter of the rectangular must be
A) ½ the perimeter of the square
B) equal to the perimeter of the square
C) equal to twice the perimeter of the square
D) equal to the square root the perimeter of the square
E) none of the above

20. If $x + y = z$ and x and y are positive, then which of the following statements can be inferred?
I. $x < y$
II. $x < z$
III. $x < 2z$
A) I only B) II only C) I and II only D) II and III only E) I,II and III only

21. In the figure below, each of the circles has radius 4 and the area enclosed by both circles is 28π. What is the area of the shaded region?



A) 0 B) 2π C) 4π D) $4\pi^2$ E) 16π

22. Rahim averaged 70 in his first m number of exams. After taking n more exams, he had an overall average of 75. In terms of m and n, his average for the last n exams was
A) (5m + 75) / n B) (5m / n) + 75 C) (5n / m) + 75 D) (70m + 75n) / (m + n) E) 80m

23. If the radius of a cylinder is tripled while its height halved, its volume will be
A) halved B) unchanged C) doubled D) increased by 50% E) 4.5 times as large

24. Which of the following equals x +xy+ (x+xy)y?
A) $x(1+y)^2$ B) $x(2+y+y^2)$ C) 2x(1 + y)+y D) 2xy(1+y) E) $x^2y(1+y^2)$

25. If the average of 5,9,k, and m is 12, what is the average of k + 7 and m – 3?
A) 14 B) 17 C) 19 D) 21 E) 38

26. The length of a rectangular field X is 2 kilometers greater than the side of a square field Y, and the width of the field X is 2 Kilometers less than the side of field Y. if y^2 is the area of Y in square kilometers, which of the following gives the area, in square kilometers, of field X?
A) $y^2 - 4$ B) $y^2 - 2$ C) y^2 D) y^2+2 E) $y^2 + 4$

27. If x, y and z are consecutive integers and x < y < z, which of the following must be true?
I. xyz is even
II. x + y + z is even
III. (x + y) (y + z) is odd
A) None B) I only C) II only D) I and III only E) I, II and III

28. This year, a city has allotted 60 percent of its budget for school expenditures, and its budget is 15 percent higher than last year's budget of n dollars. In terms of n, how many dollars of this year's budget has the city allotted for school expenditures?
A) (0.6) (0.85n) B) (0.6) (1.15n) C) (0.6) / (1.15n)
D) 0.85n / 0.6 E) (n / 1.15) + 0.6n

29. If the radius of a circle is decreased by 30 percent, by what percent will the area of the circular region be decreased?
A) 15% B) 49% C) 51% D) 60% E) 90%

30. Rini lives 4 kilometers due west of Panna's house. Anni lives 6 kilometers due north of panna's house and 4 kilometers due west of David's house. What is the straight line distance, in kilometers, from Rini's house to David's house?
A) 4 B) 5 C) 8 D) 10 E) 12

Section II: Analytical Ability

Instructions: *Solve each of the following problems and mark the correct answer on your answer sheet.*

Questions: 31 to 35

In Singapore, the public transportation system consists of one subway line and one bus line. The subway route is P-Q-R-D-E-F stations, stopping at each station and then returns in the reverse order. The bus follows the route Q-M-N-D-K stations, also stopping at each station and returns in the reverse order. On each line there are frequent buses or trains that make each stop along the route. During rush hour, there is also an express bus on the bus line that stops only at Q, N and K and returns making the same three stops in the reverse order. A passenger can transfer from one line to another line wherever the bus and subway both stop at a station with the same name. It is not possible to transfer from an express bus to a non-express bus. There is no other means of transportation available on the public transportation system.

31. To make a trip on the public transportation from R to F, a passenger must pass through which of the following additional stops?
A) D and E only B) K,D and E only C) E,N and M only
D) K,E,N and M only E) D,E,N and Q only

32. Using buses only a passenger CANNOT go on public transportation from
A) K to M B) D to Q C) N to E D) N to Q E) M to N

33. To go on public transportation from K to P, a passenger must
A) transfer at D B) transfer at Q C) take a vehicle to or through Q
D) take a vehicle to or through R E) take a vehicle to or through M

34. If a fire temporarily closes the subway tracks tracks at Q but the subway still runs from F to R and the bus still stops at Q, it will be IMPOSSIBLE for any passenger to go on public transportation to
A) K B) F C) N D) Q E) P

35. If all non-express buses are halted during rush hour due to equipment failures, is it possible during rush hour for a passenger to board an express bus at N and then go to D?
A) it is not possible
B) it is possible only, if the passenger transfers at Q
C) it is possible only, if the passenger transfers at K
D) it is possible only, if the passenger goes through both K and Q
E) it is possible only, if the passenger takes a bus that stops at M

Questions: 36 to 40

A group of eight people is made up of three teams. Team I consists of two women M and N, Team II consists of three men. O , P and Q and Team III consists of three children R, S and T, Each of the people must be on one and only one of three categories formed according to the following conditions:

Each category must have members for either two or three teams.
Each team must have at least one child.
M and R cannot be on the same team.
P and Q cannot be on the same team.
O and S must be on the same team.

36 If O is on the same team as P, which of the following pairs must be on a team together?
A) M and S B) M and T C) N and Q D) N and S E) Q and R

37. If M is on the same team as S, which of the following could be true?
A) W is on a team with only other member B) Q is on the same team as S
C) T is on the same team as O D) N is on a team with only other member
E) N is on the same team as P

38. If two women are on a team together, which of the following must be on a team with only one other member?
A) O B) P C) Q D) R E) T

39. If two of men are on a team together, which of the following must be on a team that has three members?
A) M B) N C) P D) Q E) S

40. If one man is on each team, any of the following pairs could be together on a team EXCEPT
A) M and N B) M and Q C) N and O D) N and Q E) V and T

41. The owners of a local supermarket have decided to make use of three redundant checkout counters. They believe that they will attract those who lately have been put off by the long check out lines during the mid-morning and evening rush hours. The owners have concluded that in order to be successful, the increased revenue from the existing and added counters will have to be more than the increase in maintenance costs for the added counters. The underlying goal of the owners can be summarized as:
A) To improve service to all customers.
B) To attract people who have never been to the store.
C) To make use of the redundant counters.
D) To make the maintenance cost on the added counters as low as possible
E) To increase monthly profit.

42. All cows are white. All cats are also white. Therefore, it can be concluded that all cows are cats. The argument is invalid because:
A) One argument is based another argument that contains similar reasoning.
B) It is illogical to classify two disparate groups together when there is no relationship between them, except that they both have same attribute.
C) It has drawn a mistaken analogy between two dissimilar qualities.
D) Argument was based on a fallacy which involves an ambiguous description of animals by their color.
E) Argument is based on incomplete reasoning.

43. A farmer plants only five different kinds of vegetables – beans, corn, kale, peas, and squash. Every year the farmer plants exactly three kinds of vegetables according to the following restrictions:

If the farmer plants corn, the farmer also plants beans that year. If the farmer plants kale one year, the farmer does not plant it the next year. In any year, the farmer plants no more than one of the vegetable the farmer planted in the previous year. Which of the following is a possible sequence of combinations for the farmer to plant in two successive years?
A) beans, corn, kale; corn, peas, squash
B) beans, corn, peas; beans, corn, squash
C) beans, peas, squash; beans, corn, kale
D) corn, peas, squash; beans, kale, peas
E) kale, peas, squash; beans, corn, kale

Questions 44 to 49

A mail order company sells packages of jam, each containing three jars of jam. The available flavors are grape, orange, strawberry, peach and mango. Each jar contains exactly one flavor of jam. Each package must conform to the following rules:

Each package must contain either two or three different flavors of jam. A package containing any orange jam must also contain at least one jar of grape. A package containing any grape jam must also contain at least one jar of orange. Peach jam and mango jam cannot be packed in the same package. A package containing any strawberry jam must also contain at least one jar of mango, but a package containing mango jam need not contain strawberry jam.

44. Which of the following is an acceptable package?
A) Three jars of peach
B) Three jars of orange
C) One jar of peach, one jar of strawberry, and one jar of orange.
D) One jar of orange, one jar of strawberry, and one jar of grape.
E) Two jars of strawberry and one jar of mango

45. An acceptable package CANNOT contain which of the following combinations of jams?
A) Grape and peach
B) Peach and mango
C) Orange and peach
D) Orange and grape
E) Strawberry and mango

46. Which of the following could be packed with a jar of strawberry to make an acceptable package?
A) One jar of peach and one jar of orange
B) Two jars of orange
C) One far of grape and one jar of orange
D) Two jars of mango
E) Two jars of grape

47. A jar of which of the following must be packed with a jar of orange and a jar of peach to make an acceptable package?
A) Grape B) Orange C) Strawberry D) Peach E) Mango

48. Which of the following pairs of jars of jam could be packed with a jar of orange to make an acceptable package?
A) Two jars of orange
B) One jar each of grape and strawberry
C) Two jars of strawberry
D) One jar each of orange and strawberry
E) Two jars of grape

49. Which of the following CANNOT be two of the three jars of jam in an acceptable package?
A) One jar of strawberry and one jar of peach
B) Two jars of orange
C) One jar of grape and one jar of orange
D) Two jars of grape
E) Two jars of strawberry

50. Galib is faster than Jaker, and Naser is slower than Galib. Which of the following statements would be most accurate?
A) Naser is faster than Jaker.
B) All of the above statements are inaccurate.
C) Naser is slower than Jaker.
D) It is impossible to tell whether Jaker or Naser is faster.
E) Naser is as fast as Jaker.

51. Tonmoy overslept. Therefore, he did not eat breakfast. He realized that he was late for school, so he ran as fast as he could and did not see a hole in the ground, which was in his path. He tripped and broke his ankle. He was then taken to hospital and while lying in bed was visited by his friend, who wanted to know why he had got up so late. Which of following conclusion can be drawn?
A) Because Tonmoy did not eat his breakfast, he broke his ankle.
B) Tonmoy's friend visited him in hospital because he wanted to know why he was late for school.
C) Tonmoy did not notice the hole because he overslept.
D) Tonmoy broke his ankle because he went to bed late the previous night.
E) Tonmoy's broken ankle meant he went to school late that day.

52. During 2003, advertising expenditure on fast food products increased by 30 percent, while fast food consumption rose by 40 percent. Each of the following, if true, could help explain the increase in fast food consumption except
A) Advertising effectiveness increased
B) Fast food prices decreased relative to substitutes
C) Fast foods are available in more outlets.
D) Fast food production increased.
E) Increase in awareness of health hazard from fast food products.

53. An economist was quoted as saying that the consumer price index (CPI) will go up next month because of a recent increase in price of fruit and vegetables. Which of the following cannot be inferred from the statement?
A) The cost of fruits and vegetables has risen sharply
B) Consumers have decreased their consumptions of fruits and vegetables.
C) The cost of fruits and vegetables is a major item in CPI.
D) Food cost changes are reflected quickly in the CPI
E) Other items that make up the CPI have not significantly decreased in price.

54. What would be the next number in the series: 2 ... 3 ... 5 ... 8 ... 12 ... 17.....
A) 22 B) 23 C) 24 D) 21 E) 20

55. An experiment showed that when a dog smelled food, it salivated. Subsequently, a bell was rung whenever food was placed near the dog. After a number of trails, only the bell was rung, whereupon the dog would salivate even though no food was present. Which of the following conclusion may be drawn from the above experiment?
A) Dogs are easily fooled.
B) Dogs are motivated only the sounds of a bell.
C) The ringing of a bell was associated with food.
D) A conclusion cannot be drawn on the basis of one experiment.
E) Two stimuli are stronger than one.

56. Donors are almost never offended by being asked too much (in fact, they are usually flattered). And if you ask for too much, your donor can always suggest a smaller amount. On the other hand, donors are frequently offended by being asked for too little. A common reaction is, "so that's all they think I'm worth." This statement assumes that:
A) Donors are usually never asked for enough.
B) A good fund raiser will value the worth of the donor.
C) If is a worth gamble to ask for large donations.
D) Fund raisers often think that donors are incapable of giving much.
E) Donors are seldom offended by raisers.

57. Departmental store ranges from two to eight floors in height. If a store has more than three floors, it has an elevator. If the statement is true, which of the following must also be true?
A) Second floors do not have elevators
B) Seventh floors have elevators
C) Only floors above the third floor have elevators
D) All floors may be reached by elevators.
E) Some two-floor department stores do not have elevators.

58. Self-employment is found more often among men and women in the 25 to 44 year age group than those in the younger or elder group. Some 31 percent of the men and 19 percent of the women who operate their own businesses on a full-time basis completed four or more years of college education. And while self-employed men are generally better educated than their wage-and-salary counterparts (women), the same cannot be said for self-employed women. If the information is true, which of the following must be true?
A) Self-employed women are generally younger than self-employed men.
B) Self-employed men have more education than self-employed women.
C) Women wage earners have more education than men wage earners.
D) Salaried men are younger than self-employed men.
E) Self-employed men and women have more education than wage-earning men and women.

59. In 1970, a resort earned $1 million in tourist revenue. By 1990, tourist revenue doubled and in 2000, it reached the sum of $4 million. Each of the following may explain the trend in tourist revenue except:
A) The number of tourists has increased from 1970 to 2000.
B) Average expenditure per tourist has increased.
C) Average stay per tourist has increased.
D) The number of total hotel rooms has increased.
E) The average price of tourist services has increased.

60. A woman and her husband are picking seashells on the beach. The wife says, "Give me seven of your shells and I will have twice as many as you have!". How many seashells does each one have?
A) The wife has 12, the husband 5
B) The wife has 16, the husband 9
C) The wife has 49, the husband 35
D) The wife has 51, the husband 37
E) The wife has 35, the husband 21.

Section III : Language & Communication

SENTENCE CORRECTION (questions 61 to 67)

Instructions: Each sentence is followed by five alternative versions of the underlined portion. Select the best alternative.

61. Despite their avowed opposition to the strike, no one <u>from among the dozens of nonunion workers were willing</u> to cross the picket line.
A) from among the dozens of nonunion workers were willing
B) of the dozens of nonunion workers were willing
C) was willing from among the dozens of nonunion workers
D) from among the dozens of nonunion workers was willing
E) from the dozens of nonunion workers were willing

62. Many middle class individuals find that they cannot obtain good medical attention <u>despite they need it badly</u>.
A) despite they need it badly
B) despite they badly need it
C) in spite of they need it badly
D)however much they need it
E) therefore, they need it badly

63. <u>Using it wisely</u>, leisure promotes health, efficiency, and happiness.
A) Using it wisely
B) If used wisely
C) Having used it wisely
D) Because it is used wisely
E) Because of usefulness

64. The reason <u>I come late to class today is because</u> the bus broke down.
A) I came late to class today is because
B) Why I came late to class today is because
C) I was late to class today is because
D) That I was late to class today is because
E) I came late to class today is that

65. Anyone interested in the use of computers can learn much <u>if you have access to</u> the ORACLEComputerCenter.
A) if you have access to
B) if he has access to
C) by access to
D) If access is available to
E) from access to

66. With the exception of Faruk and I, everyone in the class finished the assignment before the bell rang.
A) Faruk and I, everyone in the class finished
B) Faruk and me, everyone in the class finished
C) Faruk and me, everyone in the class had finished.
D) Faruk and I, everyone in the class had finished.
E) Faruk and me everyone in the class finished.

67. He has not only violated the law, but also he has escaped punishment.
A) not only violated the law, but also he has escaped punishment.
B) violated not only the law, but also he has escaped punishment.
C) violated not only the law, but he escaped punishment.
D) not only violated the law, but also escaped punishment.
E) not only violated the law, but has escaped punishment.

FILL-IN-THE BLANKS (Questions 68 to 72)

Instruction:Each sentence below has two blanks. Choose the set of words that best fits the blanks.

68. Scientists who are on the cutting edge of research must often violate common sense and make seemingly _____ assumptions because existing theories simple do not _____ newly observed phenomena.
A) radical, confirm B) vague, incorporate C) absurd, explain
D) mistaken, reveal E) inexact, corroborate.

69. Because many of the minerals found on the ocean floor are still _____ on land, where mining is relatively inexpensive, mining the ocean floor has yet fo become a _____ enterprise.
A) scarce, common B) accessible, marginal C) unidentified, subsidized
D) conserved, public E) plentiful, profitable

70. Opponents of the expansion of the market economy, although in _____, continued to constitute _____ political force throughout the country.
A) error, an inconsequential B) retreat, a powerful C) disarray, a disciplined
D) jeopardy, an ineffective E) command, a viable

71. The pressure of population on available resources is the key to understanding history; consequently, any historical writing that takes no cognizance of _____ facts is _____ flawed.
A) demographic, intrinsically B) ecological, marginally C) cultural, substantively
D) psychological, philosophically E) political, demonstratively

72. Because it is _____ to _____ all the business costs related to employee discontent, an accurate estimate of the magnitude of these costs is not easily calculated.
A) impossible, justify B) improper, overlook C) difficult, measure
D) useless, discover E) necessary, pinpoint

Synonyms(Questions 73 to 79)

Instructions : *A related (capital lettered) pair of words is followed by five pairs of words. Select the pair of words that best expresses a relationship similar to that expressed in the original pair of words.*

73. REFEREE: FIELD
A) scientist: results B) mediator: deadlock C) gladiator: contest
D) teacher: classroom E) judge: courtroom

74. SUBSIDY: SUPPORT
A) assistance: endowment B) funds: fellowship C) credit: payment
D) debt: obligation E) loan: note

75. WHISPER: SPEAK
A) skip: walk B) rub: touch C) listen: hear D) request: allow E) whimper: whine

76. ANNOTATION: TEXT
A) enact: law B) prescribe: medication C) caption: photograph
D) abridge: novel E) censor: film

77. FIRE: ASHES
A) accident: delay B) wood: splinters C) water: waves
D) regret: melancholy E) event: memories

78. ABACUS: CALCULATE
A) organ: worship B) patent: invent C) calipers: regulate
D) manuscript: edit E) sextant: navigate

79. SCREEN: MOVIE
A) shelf: book B) frame: portrait C) shadow: object
D) stage: play E) score: performance

Antonyms (Questions 80 to 85)

*Instructions: Each question below consists of a word in capital letters followed by five words or phrases. Choose the option that is most **opposite** in meaning to the word in capital letters.*

80. UNPREDICTABLE
A) sensitive B) complaint C) dependable D) mature E) laudable

81. PLASTICITY
A) purify B) agility C) rigidity D) sternness E) massiveness

82. BOMBASTIC
A) understated B) unimpressive C) derivative
D) remain steady E) cling together

83. FLUCTUATE
A) work for B) flow over C) follow from D) remain steady E) cling together

84. FUMBLE
A) organize nearly B) say clearly C) prepare carefully
D) handle adroitly E) replace immediately

85. MUTTER
A) please oneself B) resolve conflict C) speak distinctly
D) digress randomly E) omit willingly

READING COMPREHENSION (Question No. 86-90)

***Instruction:** After reading the following passage, choose the best answer to each question.*

Traditionally, the first firm to commercialize a new technology has benefited from the unique opportunity to shape product definitions, forcing following to adapt to a standard or invest in an unproven alternative. Today, however, the largest payoffs may go to companies that lead in developing integrated approaches for successful mass production and distribution.

Producers of the Beta format for Video Cassette Recorders (VCR's), for example, were first to develop the VCR commercially in 1975, but producers of the rival VHS (Video Home System) format proved to be more successful at forming strategic alliances with other producers and distributors to manufacture and marker their VCR format. Seeking to maintain exclusive control over VCR distribution. Beta producers were reluctant to form such alliances and eventually lost ground to VHS in the competition for the global VCR marker.

Despite Beta's substantial technological head start and the fact that VHS was neither technically better nor cheaper than beta, developers of VHS quickly turned a slight early lead in sales into a dominate position. Strategic alignments with producers of prerecorded tapes reinforced the VHS advantage. The perception among consumers that prerecorded tapes were more available in VHS format further expanded VHS's share of the market. By the end of the 1980's. beta was no longer in production.

86. The author implies that one way that VHS producers won control over the VCR market was by
A) carefully restricting access to VCR technology
B) giving up a slight early lead in VCR sales in order to improve long-term prospects
C) retaining a strict monopoly on the production of prerecorded videotapes
D) sharing control of the marketing of VHS-format VCR's
E) sacrificing technological superiority over Beat-format VCR's in order to remain competitive in price

87. According to the passage, today's successful firms, unlike successful firms in the past, may earn the greatest profits by
A) investing in research to produce cheaper versions of existing technology
B) emphasizing the development of methods for the mass production and distribution of a new technology
C) being the first to market a competing technology
D) adapting rapidly to a technological standard previously set by a competing firm
E) establishing technological leadership in order to shape product definitions in advance of competing firms

88. Which of the following best describes the relation of the first paragraph to the passage as a whole?
A) It makes a general observation to be exemplified.
B) It outlines a process to be analyzed.
C) It poses a question to be answered.
D) It advances an argument to be disputed.
E) It introduces conflicting arguments to be reconciled.

89. According to9 the passage, consumers began to develop a preference for VCR's in the VHS format because they believed which of the following?
A) VCR's in the VHS format were technically better than competing format VCR'S.
B) VCR's in the VHS format were less expensive than competing format VCR's
C) VHS was the first standard format for VCR's.
D) VHS prerecorded videotapes were more available than Beat-format tapes.
E) VCR'S in the Beat format would soon cease to be produced.

90. The passage in primarily concerned with which of the following?
A) Evaluation two competing technologies
B) Tracing the impact of a new technology by narrating a sequence of events
C) Reinterpreting an event from contemporary business history
D) Illustrating a business strategy by means of a case history
E) Proposing an innovative approach to business planning.

PART II: WRITTEN ENGLISH 30 Minutes

A. Translate the following Bangla Sentences in English. [5 Marks]

Bangla Sentence	Write the English Sentence here
উঠানে এসো এবং এক কাপ কফি খেয়ে যাও।	
লক্ষ্য কর! ওখানে পানির গভীরতা অনেক।	
এটি প্রকৃতপক্ষে আমার কাছে অত্যন্ত বিস্ময়কর মনে হচ্ছে।	
এই পথে আমার একটি বাড়ি থাকার কথা ছিল।	
এটা দুঃখজনক যে সে পাশ করতে ব্যর্থ হলো।	

B. Write a paragraph in ten sentencesexpressing your feelings on *"The first victory of Bangladesh in Test Cricket"*. [15 Marks]

ANSWER KEY

Section 1: Mathematics

1. E	2. C	3. D	4. E	5. B	6. E	7. C	8. D	9. B	10. B
11. E	12. C	13. A	14. E	15. C	16. B	17. B	18. A	19. E	20. D
21. C	22. B	23. E	24. A	25. C	26. A	27. D	28. B	29. C	30. D

Section 2: Analytical ability

31. A	32. C	33. C	34. E	35. B	36. B	37. E	38. D	39. E	40. A
41. E	42. B	43. C	44. E	45. B	46. D	47. A	48. E	49. A	50. D
51. C	52. E	53. B	54. B	55. C	56. C	57. B	58. B	59. D	60. C

Section 3: Language and Communication

61. D	62. D	63. B	64. E	65. B	66. C	67. D	68. C	69. E	70. B
71. A	72. C	73. E	74. A	75.A	76. C	77. E	78. E	79. B	80. C
81.C	82. B	83. D	84. D	85. C	86. D	87. E	88. A	89. D	90. D

Solution of MBA Admission Test 2004-05

Section I: Mathematics

1. TV news দেখে = 65%
   Newspaper পড়ে = 40%
   মোট = 105 %
   দুটোই করে = 25%
   ∴ যেকোন ১ টি বা ২টি করে = 80%
   অর্থাৎ 100 – 80 = 20% কোনটিই করেনা। ∴ Answer E

2. প্রথমটির জন্য 75 টাকা, দ্বিতীয়টির জন্য ও 75 টাকা; কিন্তু তৃতীয়টির জন্য 100 টাকা
   ∴ মোট service charge = 75 + 75 + 100 = 250 টাকা। ∴ Answer C

3. প্রতি 3 ঘন্টায় 22 units হলে 1 ঘন্টায় = $\frac{22}{3}$ units

   অতএব, 90 units করতে হলে no. of workers = $90 \div \frac{22}{3} = 90 \times \frac{22}{3} = 12.3$ (approx)

   অর্থাৎ, কমপক্ষে 13 জন লাগবে। ∴ Answer D

4. এটি বের করা সম্ভব নয়। ∴ Answer E

5. $\frac{possible\ outcome}{total\ outcome}$ $\frac{7/8/9}{1\text{ to }9} = \frac{3}{9} = \frac{1}{3}$ ∴ Answer B

6. 4 rolls + 6 samochas + 3 loaves = 91 ------ (1)
   2 rolls + 3 samochas +1 loaf = 39 -------- (II)
   (II) × 2 = 4 rolls + 6 samochas + 2 loaves = 78 ------ (III)
   (I) – (III) ⇒ 1 loaf = 13 ∴ Answer E

7. Total =100 mile হলে, 75 miles এর জন্য speed = 50 m/h; total time = $\frac{75}{50}$ hours

   অর্থাৎ, 25 miles এর জন্য speed = S m/h; total time = $\frac{25}{S}$ hours

   অর্থাৎ, average speed = $\frac{100}{\frac{75}{50}+\frac{25}{S}}$

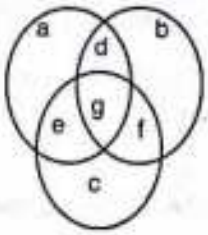
   প্রশ্নমতে, $\frac{100}{\frac{75}{50}+\frac{25}{S}} = 40 \Rightarrow 100 = 40\left(\frac{75S+50x25}{50S}\right)$

   ⇒ 100 × 50S = 40 × 75S + 40 × 50 × 25 ⇒ 5000S – 3000S = 50000
   ⇒ 2000S = 50000 ⇒ S = 25 ∴ Answer C

8. ধরি, Jasim's meal = 100 টাকা
   ∴ Khalil's meal = 150 টাকা
   এবং Maruf's meal = $150 \times \frac{5}{6}$ = 125 টাকা
   ∴ মোট খরচ = 100 + 150 + 125+ = 375 টাকা
   Jashim এর খরচ 100 টাকা হলে মোট বিল = 375 টাকা
   ∴ Jashim এর খরচ 1000 টাকা হলে মোট বিল = 3750 টাকা ∴ Answer D

9. ধরি, 2 বছর আগে Millat এর salary = 200 টাকা
   ∴ 2 বছর আগে Jalal এর salary = 100 টাকা
   1 বছর আগে Jalal এর salary = 105 টাকা এবং Millat এর salary = 220 টাকা
   এখন, Jalal এর salary = $\{105 + (105 \times \frac{5}{100})\}$ টাকা = 110.25 টাকা
   এবং Millat এর salary = $\{220 + (220 \times \frac{10}{100})\}$ টাকা= 242 টাকা
   ∴ নির্ণেয় percentage = $\frac{110.25}{242} \times 100 = 45.55\%$ (approx) = 46% (approx) ∴ Answer B

10. নিচের diagram টি লক্ষ্য করুন।



ধরি, a +b +e +g = management
b + d + f + g= accounting
এবং c + e + f + g = marketing
এখন, a +b + e +g = 40
b +d +f +g = 35
c +e +f + g = 30

a +b +c + 2 (d + e + f) + 3g = 105
প্রশ্নমতে, a + b + c + (d + e + f) + g = 70
∴ d + e + f + 2g = 35
এখন, g = 15
অর্থাৎ, d + e + f = 35 – 30 = 5
∴ Answer B

11. ধরি, গত সপ্তাহে Sohan কাজ করেছে = 10 hours
এবং গত সপ্তাহে Sohan এর total wage = $ 137

∴ গত সপ্তাহে Sohan এর per hour wage = $\frac{\$137}{10}$ = $13.7

প্রশ্নানুসারে, এই সপ্তাহে Sohan কাজ করেছে = $10 - (10 \times \frac{10}{100}) = 9$ hours

এবং এই সপ্তাহে per hour wage = $13.7 - (13.7 \times \frac{10}{100})$ = $ 15.07

∴ এই সপ্তাহে Sohan এর total wage = $ (15.07 × 9) = $ 135.63
অর্থাৎ, change = $ (137 – 135.63) = $ 1.37 decrease ∴ Answer E

12. 3 < x < 8,
5< y < 11
15 < xy < 88
∴ Answer C

13. shelf 1 = $30000 \times \frac{1}{4} = 7500$

shelf 4 = 7500

shelf 2 = $7500 \times \frac{2}{3} = 5000$ shelf 3 = 5000

∴ shelves (1 + 2 + 3 + 4) = 7500 + 7500 + 5000 + 5000 = 25000
অর্থাৎ, shelf 5 = 30000 – 25000 = 5000
∴ Answer A.

14. $OQ^2 = 2^2 + 2^2 \Rightarrow OQ = \sqrt{8} = 2\sqrt{2}$

$OP^2 = 4^2 + 4^2 \Rightarrow OP = \sqrt{32} = 4\sqrt{2}$

$PQ^2 = OQ^2 + OP^2 = 8 + 32 = 40 \Rightarrow PQ = \sqrt{40} = 2\sqrt{10}$

∴ perimeter = $2\sqrt{2} + 4\sqrt{2} + 2\sqrt{10} = 6\sqrt{2} + 2\sqrt{10}$
∴ Answer E.

15. square এর area 16 হলে একটি বাহু = 4
square এর area 36 হলে একটি বাহু = 6

অর্থাৎ, triangle এর অতিভুজ = $\sqrt{4^2 + (6-4)^2} = \sqrt{20} = 2\sqrt{5}$

∴ perimeter = $4 + 2\sqrt{5} + 6 + 2\sqrt{5} + 4 + 4 + 6 + 4 = 28 + 4\sqrt{5}$
∴ Answer C

16. মোট women = $400 \times \frac{30}{100} = 120$ জন।

অর্থাৎ, women instructors = $120 \times \frac{1}{5} = 24$ জন।

অতএব, man instructors = $24 \times 2 = 48$ জন।

∴ Answer B

17. I) area = $\pi r^2 = \pi\left(\sqrt{2}\right)^2 = 2\pi = 6.28$ (approx)

II) area = $\frac{\sqrt{3}}{4}a^2 = \frac{\sqrt{3}\times 4^2}{4} = 4\sqrt{3} = 6.92$ (approx)

III) area = $\frac{1}{2}\times 3\times 4 = \frac{12}{2} = 6$

∴ Answer B

18. প্রথমে 12 টি number এর যোগফল = 12x

Replace করার পরে number গুলোর যোগফল = 12x + (38 – 34)

∴ average = $\frac{12x+4}{12} = x + \frac{1}{3}$

∴ Answer A

19. কোনটিই হবেনা। একটি example দেখুন:

ধরি, rectangle এবং square এর area = 100

∴ square এর একটি বাহু = $\sqrt{100} = 10$, rectangle এর length ও width = 20,5 or 50,2 or 25,4

অর্থাৎ, square এর perimeter = $10 \times 4 = 40$

rectangle এর perimeter = 2(20 + 5) or 2(50 + 2) or 2(25 + 4)

= 50 or 104 or 58

∴ Answer: E

20. x ও y positive হলে x + y অবশ্যই x ও y এর থেকে বড় হবে।

II এবং III দুটোই ঠিক।

∴ Answer: D

21. মোট area = $\pi\ (4)^2 + \pi\ (4)^2 = 32\ \pi$

∴ shaded portion এর area = 32 π - 28 π = 4 π

∴ Answer : C

22. ধরি, n exams এর average = x

∴ প্রশ্নমতে, 70m+ xn = 75 (m + n)

$\Rightarrow$ 70m +xn = 75m + 75n $\Rightarrow$ xn = 5m + 75n $\Rightarrow$ $x = \frac{5m}{n} + 75$

∴ Answer B

23. ধরি, previous radius = 1

এবং previous height = 1

∴ volume = $\pi r^2 h = \pi (1)^2 \times 1 = \pi$

এখন, radius = 3; height = $\frac{1}{2}$ হলে, volume = $\pi (3)^2 \times \frac{1}{2} = \frac{9\pi}{2}$

অর্থাৎ, $\frac{9}{2} = 4.5$ times as large. ∴ Answer E.

24. $x + xy + (x + xy)\ y = x+xy+xy+xy^2 = x+2xy + xy^2 = x\ (1 + 2y + y^2) = x\ (1 + y)^2$

∴ Answer A

25. $5 + 9 + k + m = 12 \times 4 = 48$

$\Rightarrow k + m = 48 - 14 = 34$ $\Rightarrow k + 7 + m - 3 = 34 + 7 - 3 = 38$

$\therefore \frac{k+7+m-3}{2} = \frac{38}{2} = 19$

∴ Answer C

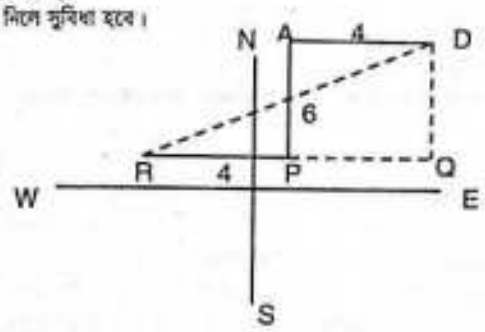
26. square field এর area = y^2 ∴ একটি side = y
অর্থাৎ, rectangle এর length = y + 2 এবং width = y – 2
∴ rectangle এর area = (y + 2) (y – 2) = $y^2 - 4$ ∴ Answer A

27. x,y,z ক্রমিক সংখ্যা এবং x<y<z হলে, x ও z even, y odd; অথবা, x ও z odd, yeven.
অর্থাৎ, xyz = even × odd × even = even
অথবা, xyz =odd × even × odd = even
সুতরাং, I অবশ্যই সত্যি। এখন, x + y + z = even + odd + even = odd অথবা, odd + even + odd = even.
সুতরাং, II সবসময় সত্যি নয়।
আবার, (x + y) (y + z) = (even + odd) (odd + even) = odd × odd = odd
অথবা, (odd + even) (even + odd) = odd × odd = odd
সুতরাং, III অবশ্যই সত্যি। ∴ Answer D

28. আগের বছরের বাজেট n হলে এবছরের বাজেট $= n + (n \times \frac{15}{100}) = n + \frac{3n}{20} = \frac{23n}{20}$
∴ school expenditure এ allocate করা হয়েছে $= \frac{23n}{20} \times \frac{60}{100} = \frac{23n}{20} \times 0.6 = (0.6)(1.15n)$
∴ Answer B

29. যদি, radius ছিল =10; অর্থাৎ, area = $\pi (10)^2 = 100\pi$
এখন radiusহবে= 7; অর্থাৎ area = $\pi (7)^2 = 49\pi$
অর্থাৎ, area (100-49) = 51% decrease করবে।
∴ Answer C

30. ছবি এঁকে নিলে সুবিধা হবে।



RD বের করতে হবে। D হতে RP এর বহিরাগত লম্ব DQ আঁকলাম। DQ = 6 যেহেতু AP = 6; RQ = 4 + 4 = 8
∴ $RD^2 = 6^2 + 8^2 = 100 \Rightarrow RD = 10$ ∴ Answer D

Section II: Analytical Ability

Questions 31 – 35

Subway route → P ----- Q ---- R ------ D ----- E -------- F
Non express Bus Route → Q ---- M ---N ----D ----K
Express Bus Route → Q -------- N ------k

এ থেকে বোঝা যায়, প্রত্যেকটা ট্রেশনে থামবে এবং বিপরীত নির্দেশনায় ফিরে আসবে। common ট্রেশন হলে subway থেকে express বা non-express bus এ এবং non-express থেকে express bus – এ transfer করা যাবে; কিন্তু express bus থেকে non-express bus এ transfer করা যাবেনা। এবার প্রশ্নগুলো দেখা যাক।

31. R থেকে F এ যাওয়া যায় শুধু subway তে। আর এভাবে যেতে হলে মাঝখানে D ও E এর উপর দিয়ে যেতে হবে।
∴ Answer A

32. খেয়াল করলে দেখা যাবে, subway ছাড়া P, R, E, F এই চারটি ট্রেশনে যাওয়া সম্ভব নয়। Answer choice গুলোর যেটায় এই চারটির যেকোন একটি থাকবে, সেখানে যাওয়া সম্ভব না। ∴ Answer C

33. আমরা দেখতে পাই, K থেকে P তে যেতে হলে express bus থেকে subway হয়ে অথবা non-express bus থেকে subway হয়ে যাওয়া যায়। প্রথম ক্ষেত্রে, Q তে transfer করে P তে যেতে হবে। দ্বিতীয় ক্ষেত্রে D তে transfer করে R, Q হয়ে P তে অথবা Q তে transfer করে P তে যাওয়া যায়। প্রতিক্ষেত্রেই আমরা দেখি Q হয়ে যেতে হচ্ছে।
∴ Answer

34. এটা স্পষ্ট যে Q বন্ধ থাকলে P তে যাওয়া সম্ভব নয়।
∴ Answer E

35. প্রশ্নে বলা হয়েছে, non-express bus বন্ধ থাকা অবস্থায় express bus এ করে N এ উঠে D তে যাওয়া সম্ভব কিনা। সম্ভব, যদি express bus এ N থেকে Q তে গিয়ে subway তে transfer করে তারপর subway তে করে D তে যায়।
∴ Answer B

Questions 36 – 40

Team I → 2 women: M and N
Team II → 3 men: O,P and Q
Team III → 3 children: R, S and T

প্রত্যেকে অবশ্যই একটি এবং শুধুমাত্র একটি category তে থাকবে নিচের শর্তানুযায়ী -
প্রত্যেক category তে দুটি বা তিনটি team এর member থাকবে। প্রত্যেক team এ কমপক্ষে একজন child থাকবে।
M ও R একই team এ থাকতে পারবে না।
P ও Q একই team এ থাকতে পারবে না।
O ও S একই team এ থাকবে।

36. O এবং P যদি এক team এ থাকে তাহলে সেই team এ S ও থাকবে। অর্থাৎ বাকী রইল M, N, Q, R, T.
Possible teams হচ্ছে → MT, NQR; or NR,MQT
∴ Answer B

37. M এবং S একই team এ থাকলে সেই team এ O থাকবে।
∴ possible team হচ্ছে → NPR; NPT ∴ Answer E

38. 2 women অর্থাৎ M ও N যদি একই team এ থাকে তাহলে team টি হবে MNT.
MNT হলে বাকী থাকে O,P,Q,R,S
∴ Possible teams = OPS/OQS/PRS/PR/QR
অর্থাৎ, মাত্র একজনের সাথে team তৈরী করতে পারেR. ∴ Answer D

39. 2 men একই team এ থাকলে তাদের combination হবে OP বা OQ; সাথে থাকতে হবে অবশ্যই S কে।
অর্থাৎ, team টি হবে OPS বা OQS
OPS হলে বাকী থাকে M, N, Q, R, T
Possible Teams = MNT/QR, MQT/NR, NQR/MT.

OQS হলে বাকী থাকে M, N, P, R, T
Possible teams = MNT/PR, MPT/NR, NPR/MT
অর্থাৎ, 3 member team তৈরী হলে O/S অবশ্যই সেখানে থাকবে।
কিন্তু answer choice এ O নেই।
∴ Answer E

40. M and N সম্ভব নয়, কারন একজন child থাকতেই হবেএবং একজন man রাখতেই হবে, তাই M ও N একসাথে থাকতে পারেনা।
∴ Answer A

41. এখানে বলা হয়েছে, supermarket এর প্রয়োজনাতিরিক্ত তিনটি counter কে কাজে লাগিয়ে সুযোগবঞ্চিত ক্রেতাদের serve করা সম্ভব। সাথে এটাও বলা হয়েছে ওই তিনটি counter রক্ষনাবেক্ষনের খরচ যেন ওই তিন counter এর সুবাদে আসা অতিরিক্ত revenue এর থেকে কম হয়। অর্থাৎ, owner রা এক্ষেত্রে profit বাড়াতে চাইছেন। ∴ Answer E

42. এখানে একটিমাত্র attribute বা বৈশিষ্ট্যের উপর ভিত্তি করে দুটি disparate বা আলাদা group কে এক করে দেখানো হচ্ছে, যা একটি logical error. ∴ Answer B

43. পাঁচটা different type এর vegetables আছে → bean, corn, kale, peas, squash.প্রতি বছর ঠিক 3 type এর vegetable চাষ করা হয় প্রশ্নে প্রদত্ত শর্তানুযায়ী। corn চাষ করলে bean ও চাষ করবে। kale এক বছর করলে পরের বছর করা যাবেনা। আগের বছরের তিনটি থেকে যেকোন একটি এই বছর চাষ করা যাবে।
A তে 2nd year এ corn আছে, beans নেই, B তে beans ও corns দুটি vegetable পরপর দুবছর চাষ করা হয়েছে।
D তে 1st year এ corn আছে, beans নেই। E তে kale পরপর দুবছর চাষ করা হয়েছে। শুধু C তে সবগুলো শর্ত মানা হয়েছে।
∴ Answer C.

Question 44 – 47

প্রতিটি package এ jam এর তিনটি jar থাকে। প্রতি jar এ যেকোন একটি flavor এর jam থাকে: grape, orange, strawberry, peach ও mango. নিচের শর্তগুলো মেনে packaging করা হয়।

- প্রতি package এ দুই বা তিনটি flavor এর jam থাকতে হবে।
- কোন package এ grape থাকলে কমপক্ষে ১টি orange ও থাকতে হবে।
- একটা package এ peach ও mango রাখা যাবেনা।
- কোন package এ strawberry থাকলে কমপক্ষে ১টি mango ও থাকতে হবে।

A ও B সম্ভব নয় প্রথম শর্তানুসারে। C ও D সম্ভব নয় শেষ শর্তানুসারে। E তে কোন সমস্যা নেই।

44. ∴ Answer E

তৃতীয় শর্তানুযায়ী peach ও mango একসাথে রাখা সম্ভব নয়। ∴ Answer B

45. strawberry থাকলে যেহেতু mango রাখতেই হবে, তাই D ছাড়া কোনটা সম্ভব নয়।

46. ∴ Answer D

II নং শর্ত অনুযায়ী কোন Package এ orange থাকলে তাতে কমপক্ষে একটি grape থাকতেই হবে।

47. ∴ Answer A

A সম্ভব নয় ১ম শর্তানুসারে। B,C ও D সম্ভব নয় শেষ শর্তানুসারে। E ঠিক আছে।

48. ∴ Answer E

A সম্ভব নয়। কারন strawberry থাকলে mango থাকবে, কিন্তু peach ও mango একসাথে থাকতে পারবেনা।

49. ∴ Answer A

50. এভাবে দেখুন → G > J; N < G বা G >N অর্থাৎ G দুজনের চেয়েই faster, কিন্তু J ও N এর মধ্যে কে faster বোঝা যাচ্ছেনা। ∴ Answer D

51. এখানে cause and effect relationship দেখানো হয়েছে। বেশি ঘুম → তাড়াহুড়া → গর্ত দেখতে ব্যর্থতা ∴ Answer C

52. 2003 সালে fast food products এর বিজ্ঞাপনের খরচ বেড়েছে 30% এবং fast food এর বিক্রি বেড়েছে 40%. A, B, C ও D প্রত্যেকটিই এই trend এর পক্ষে; কিন্তু E তে বলা হচ্ছে fast food products এর ক্ষতিকর দিক সম্পর্কে জনসচেতনতা বেড়ে গেছে; সেক্ষেত্রে এটা trend এর বিপক্ষে। ∴ Answer E

53. একজন অর্থনীতিবিদের ভাষ্যমতে consumer price index (CPI) আগামী মাসে বেড়ে যাবে। এর কারন হিসেবে দেখানো হয়েছে ফল ও সবজির সাম্প্রতিক মূল্যবৃদ্ধিকে। এ থেকে বোঝা যায়, I) ফল ও সবজির মূল্য বেড়েছে, II) CPI তে ফল ও সবজির মূল্য একটি গুরুত্বপূর্ণ নির্দেশক, III) খাদ্যমূল্যেও বৃদ্ধি খুব তাড়াতাড়িই CPI তে প্রতিফলিত হয়। IV) যদি অন্য item গুলোর price কমে যেত, তাহলে CPI balanced থাকত, অর্থাৎ অন্যান্য item এর মূল্য উল্লেখযোগ্য পরিমান কমেনি। কিন্তু মূল্যবৃদ্ধির কারণে consumer (ভোক্তা) যা কেনা কমিয়ে দিয়েছে এটা হতে পারেনা। ∴ Answer B

54. লক্ষ্য করে দেখুন → 2 + 1 = 3 + 2 = 5 + 3 = 8 + 4 = 12 + 5 = 17 অর্থাৎ difference 1 বেড়ে যাচ্ছে। অর্থাৎ, next number = 17 + 6 = 23 ∴ Answer B

55. প্রথমে দেখা গেছে smelling food এর সাথে salivation এর সম্পর্ক। এরপর, ঘন্টা বাজার সাথে সাথে খাবার দেয়া হয়। এভাবে বারবার করার পর ঘন্টা বাজার সাথে সাথে কুকুরটির salivation শুরু হয়, খাবার না থাকলেও। অর্থাৎ, কুকুরটি ঘন্টার আওয়াজকেই খাবারের নির্দেশক ধরে নিচ্ছে। ∴ Answer C

56. বলা হচ্ছে, দাতাদের কাছে বেশি টাকা চাইলে তারা অসন্তুষ্ট হননা; বরং প্রীত বোধ করেন। তারপর negotiation এর মাধ্যমে তারা কম একটা amount এ settle করার চেষ্টা করেন। অপরদিকে কম টাকা চাইলে দাতারা অপমানিত বোধ করতে পারে এবং ভাবতে পারে, "ওরা কি ভাবে আমার সামর্থ্য এতই কম?" এই argument থেকে ধারনা করা যায় দাতাদের কাছে large amount দাবী করাটাই যৌক্তিক। ∴ Answer C

57. departmental store এর উচ্চতা ২ তলা থেকে ৮ তলা পর্যন্ত হয় ---- এটা দিয়ে বোঝা যায়, dept. store ১তলা হতে পারবেনা এবং ৯ তলা বা ততোধিক হতে পারবেনা। আবার বলা হয়েছে, যদি ৩ তলার বেশি থাকে, সেক্ষেত্রে elevator (lift) থাকবে। এখন চিন্তা করুন --- ৪/৫/৬/৭/৮ তলা store এ অবশ্যই elevator থাকবে, কিন্তু elevator শুরু হবে ১ তলা থেকে। অতএব, answer choice গুলো দেখলেই বুঝতে পারবেন। B হচ্ছে correct answer. ∴ Answer B

58. বলা হচ্ছে, 25 থেকে 44 বছর বয়সের মানুষের মধ্যে অন্যান্য age group এর তুলনায় self–employment বেশি দেখা যায়। 31 শতাংশ self-employed পুরুষ এবং 19 শতাংশ self–employed মহিলা তাদের 4-year college education শেষ করেছে। আবার বলা আছে self-employed পুরুষেরা wage এবং salary পাওয়া পুরুষদের চেয়ে বেশি শিক্ষিত; কিন্তু self –employed মহিলাদের ক্ষেত্রে কথাটি সত্যি নয়। অর্থাৎ, salary এবং wage পাওয়া মহিলারা self-employed মহিলাদের সমান বা তার চেয়ে বেশি শিক্ষিত। এখান থেকে বোঝা যায়, যেহেতু শিক্ষিতদের percentage এবং counterpart দের সাথে তুলনামূলক শিক্ষা এই দুক্ষেত্রেই self-employed পুরুষেরা এগিয়ে, সেহেতু self-employed পুরুষরা self-employed মহিলাদের চেয়ে বেশি শিক্ষিত। ∴ Answer B

59. বলা আছে, 1970 তে revenue ছিল $1 million, 1990 তে $2 million এবং 2000 এ $4 million; এ থেকে বোঝা যায় revenue অবশ্যই বাড়ছে। বিভিন্ন কারনে revenue বাড়তে পারে (খেয়াল রাখতে হবে revenue মানে profit নয়; profit= revenue- expense), tourist দের সংখ্যা বেড়ে গেলে, tourist দের পেছনে খরচ বেড়ে গেলে, tourist -রা বেশি stay করলে বা tourist service এর price বেড়ে গেলে total revenue বাড়তে পারে। কিন্তু number of hotel rooms বেড়ে গেলে revenue বাড়বেনা। ∴ Answer D

60. Backward calculation (answer choice) থেকে solve করুন।
Option C তে 49 + 7 =2 (35 – 7) ⇒ 56 = 56
∴ Answer C

Section III: Language and Communication

61. no one যেহেতু বলা হয়েছে তাই were এর পরিবর্তে was হবে। ∴ Answer D

62. despite বা in spite of এর পর clause হয় না। তাই however much they need it হবে।
∴ Answer D

63. leisure এর passive form ব্যবহার করতে হবে- if used wisely. ∴ Answer B

64. reason -------- because, structure টি ভুল। reason -------- that হবে। ∴ Answer E

65. Anyone এর সাথে সঙ্গতি রাখার জন্য if he has access to হবে। ∴ Answer B

66. এখানে I এর পরিবর্তে me বসবে এবং had finished হবে। ∴ Answer C

67. not only --------- but also structure এ দুইবার he has ব্যবহার করার প্রয়োজন নেই।
∴ Answer D

68. নতুন কিছু develop করার ক্ষেত্রে বিজ্ঞানীদের প্রায়ই common sense বাদ দিয়ে প্রায় absurd (অস্বাভাবিক) assumption করতে হয়। কারন existing theory নতুন প্রাপ্তিকে explain (ব্যাখ্যা) করেনা।
∴ Answer C

69. সমুদ্রগর্ভে প্রাপ্ত খনিজগুলোর অনেকগুলো যেহেতু মাটিতেই পাওয়া যাচ্ছে প্রচুর পরিমানে (plentiful) তাই সমুদ্রগর্ভে mining এখনও লাভজনক (profitable) ব্যবসায় পরিনত হয়নি। ∴ Answer E

70. Answer B

71. population এর সাথে সম্পর্কযুক্ত words choose করতে হবে। demographic অর্থ লোকসংখ্যা সংক্রান্ত বিষয়।
∴ Answer A

72. cost (খরচ) সাধারনত পরিমাপ (measure) করা হয়। ∴ Answer C

73. Referee মাঠে নিয়ন্ত্রন করেন; judge (বিচারক) courtroom নিয়ন্ত্রন করেন। ∴ Answer E

74. Answer A

75. Answer A

76. Annotation হচ্ছে footnote; সঙ্গতি পূর্ণ pair হচ্ছে caption: photograph.
∴ Answer C

77. fire (আগুন) এর পরে ashes (ছাই) থাকে। event এর পরে memories থেকে যায়।
∴ Answer E

78. Abacusহচ্ছে calculateকরার প্রাচীন যন্ত্র। sextantহচ্ছে navigate(নৌ নিদের্শনা) করার প্রাচীন যন্ত্র।
∴ Answer E

79. Answer B

80. unpredictable অর্থ যা / যাকে বোঝা যাবেনা। Best opposite word হচ্ছে dependable (ভরসা করা যায় এমন)
∴ Answer C

81. Answer C

82. Answer B

83. Answer D

84. Fumble অর্থ mishandle করা। adroitly handle করা হচ্ছে দক্ষভাবে handle করা।
∴ Answer D

85. Mutter অর্থ অস্পষ্টভাবে কথা বলা। speak distinctly হবে best answer. ∴ Answer C

86. ২য় paragraph এর মাঝামাঝি উত্তর পাওয়া যায়। VHS এর সাফল্যের অন্যতম কারন হচ্ছে Marketing এর control share কম।
∴ Answer D

87. Answer E

88. ১ম paragraph এ সাধারন আলোচনা করে পরের paragraph গুলোতে উদাহরন দেয়া হয়েছে।
∴ Answer A

89. ৩য় paragraph এর শেষদিকে answer আছে। pre-recorded videotapes এর availability বেশি VHS এর ক্ষেত্রে।
∴ Answer D

90. এই passage-এ একটি business strategy আলোচনা করা হয়েছে business history এর একটি ঘটনাকে উদাহরন হিসেবে দেখিয়ে।
∴ Answer D

MBA (IBA)

Admission Test Question (2005-2006) with Solution

SECTION I: MATHEMATICS

Directions: Solve each of the following problems and mark the correct answer on your Answer Sheet. **DO NOT USE A CALCULATOR.** Figures are not drawn to scale.

1. In 1995, 45% of a Data Analysis Company's 60 customers were banks, and in 1997, 25% of its 144 customers were banks. What was the percent increase fromn 1995 to 1997 in the number of bank customers the company had?
(A) 10.7% (B) 58.33% (C) 25% (D) 33.33% (E) None of these

2. Coins are to be put into 7 pockets so that each pocket contains at least one coin. At most 3 of the pockets are to contain the same number of coins and no two of the remaining pockets are to contain an equal number of coins. What is the least possible number of coins needed for the pockets?
(A) 7 (B) 13 (C) 17 (D) 22 (E) None of these

3. Of the 65 cars on a car lot, 45 have air conditioning, 30 have power windows and 12 have both air conditioning and power windows. How many of the cars on the lot have neither air conditioning nor power windows?
(A) 5 (B) 10 (C) 4 (D) 2 (E) None of these

4. The inside dimensions of a rectangular wooden box are 6 inches by 8 inches by 10 inches. A cylindrical canister is to be placed inside the box so that it stands upright when the closed box rests on one of its six faces. Of all such canisters that could be used, what is the radius in inch as of the one that has maximum volume?
(A) 3 (B) 4 (C) 5 (D) 6 (E) None of these

5. In a certain brick wall, each row of bricks above the bottom row contains one less brick than the row just below it. If there are 5 rows in all and a total of 75 bricks in that wall, how many bricks does the bottom row contain?
(A) 12 (B) 17 (C) 14 (D) 15 (E) None of these

6. Which of the following inequalities is equivalent to $10 - 2x > 18$?
(A) $x > -14$ (B) $x > -4$ (C) $x > 4$ (D) $x < 4$ (E) None of these

7. In 2004, approximately 1/3 of the 37.3 million airline passengers traveling to or from Bangladesh used Dhaka Airport. If the number of such passengers that used Chittagong Airport was ½ the number that used Dhaka Airport and 4 times the number that used Jessore Airport, approximately how many millions of these passengers used Jessore Airport that year?
(A) 18.6 (B) 9.3 (C) 6.2 (D) 3.1 (E) 1.6

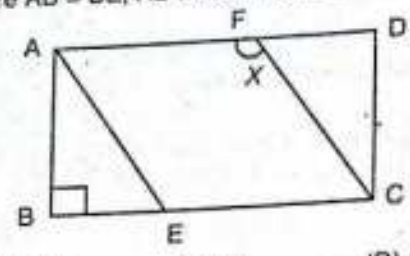
8. A certain football team that has played 2/3 of its games has a record of 17 wins and 3 losses. What is the greatest number of the remaining games that the team can lose and still win at least ¾ of all of its games?
(A) 7 (B) 6 (C) 5 (D) 4 (E) 3

9. Danesh and Sham, who live 10 miles apart, meet at a café that is directly north of Danesh's house and directly east of Sham's house. If the café is 2 miles closer to Danesh's house than to Sham's house, how many miles is the café from Sham's house?
(A) 6 (B) 7 (C) 8 (D) 9 (E) 10

10. There were 36,000 hardback copies of a certain novel sold before the paperback version was issued. From the time the first paperback copy was sold until the last copy of the novel was sold, 9 times as many paperback copies as hardback copies were sold. If a total of 441,000 copies of the novel were sold in all, how many paperback copies were sold?
(A) 45,000 (B) 360,000 (C) 364,500 (D) 392,000 (E) 396,900

11. Last year Mrs. Latif received Tk. 160 in dividends on her shares of Company X stock, all of which she had held for the entire year. If she had had 12 more shares of the stock last year, she would have received Tk. 15 more in total annual dividends. How many shares of the stock did she have last year?
(A) 128 (B) 140 (C) 172 (D) 175 (E) 200

12. In the following figure AB = BE, AB II CD and AE II FC. What is the value of x [in degree]?



(A) 45 (B) 135 (C) 75 (D) 125 (E) 115

13. In the official exchange ratio of French Francs to US Dollars is 350:1 and the free exchange ratio is 400:1 how much profit would a man make if he could convert $ 70 to francs at the free rate and then convert these back to dollars at the official rate?

(A) $ 1 (B) $ 10 (C) $ 61.25 (D) $ 70 (E) $ 80

14. If x is a positive even number, then each of the following is odd except:

(A) (x + 3) (x + 5) (B) $x^2 + 5$ (C) $x^2 + 6x + 9$ (D) $3x^2 + 4$ (E) None of these

15. Tk. 2000 is deposited in a savings account which pays 6% annual interest compounded semi-annually. To the nearest Taka, how much is in the account at the end of the year?

(A) Tk 2060 (B) Tk. 2120 (C) Tk. 2122 (D) Tk. 2247 (E) Tk. 2258

16. The 180 students in a group are to be seated in rows so that there is an equal number of students in each row. Each of the following could be the number of rows EXCEPT

(A) 4 (B) 20 (C) 30 (D) 40 (E) 90

17. A parking garage rents parking spaces for Tk. 100 per week or Tk. 300 per month. How much does a person save in a year by renting by the month rather than by the week?

(A) Tk. 1400 (B) Tk. 1600 (C) Tk. 2200 (D) Tk. 2400 (E) None of these

18. At a certain cafeteria, burger and french fries cost Tk. 39.50, and a burger and salad cost tk. 44.00. If salad cost twice as much as French fries, how much do french fries cost?

(A) Tk. 3.00 (B) Tk. 4.50 (C) Tk. 6.00 (D) Tk. 7.50 (E) None of these

19. Ali, Leema, and Kabir pooled their funds to buy a gift for a friend. Ali contributed Tk. 2 less than 1/3 of the cost of the gift and Leema contributed Tk. 2 more than 1/4 of the cost. If Kabir contributed the remaining Tk. 15, what was the cost of the gift?

(A) Tk 24 (B) Tk 33 (C) Tk 36 (D) Tk 43 (E) None of these

20. What is the total number of integers between 100 and 200 that are divisible by 3?

(A) 33 (B) 32 (C) 31 (D) 30 (E) None of these

21. Of the 3,600 employees of Company X, 1/3, are clerical. If the clerical staff were staff were to be reduced by 1/3, what percent of the total number of the remaining employees would then be clerical?

(A) 25% (B) 22.2% (C) 20% (D) 12.5% (E) None of these

22. For a certain performance, x tickets for lower-level seats were sold at Tk. 10 each and y tickets for balcony seats were sold at Tk. 6 each. If there were no other tickets sold and the number of tickets sold for lower-level seats was 3 times the number of tickets sold for balcony seats, which of the following expresses the total number of dollars from ticket sales in terms of x?

(A) 12x (B) 16x (C) 28x (D) 32x (E) 36x

23. Each of the integers from 0 to 9, inclusive, is written on a separate slip of blank paper and the ten slips are dropped into a hat. If the slips are then drawn one at a time without replacement, how many must be drawn to ensure that the numbers on two of the slips drawn will have a sum of 10?

(A) Three (B) Four (C) Five (D) Six (E) Seven

24. If $32^{a+b} = 16^{a+2b}$, then a = ?

(A) b (B) b + 2 (C) 2b (D) 3b (E) None of these

25. To mix a certain color of paint. Alana combines 5 liters of red paint, 2 liters of blue paint, and 2 liters of yellow paint. What is the ratio of red paint to the total amount of paint?

(A) 5 : 2 (B) 9 : 4 (C) 5 : 4 (D) 5 : 9 (E) None of these

26. Last year, there were 1172 students at Beaton High School. This year there are 15 percent more students than last year. Approximately how many students are at Beaton High School this year?

(A) 1800 (B) 1600 (C) 1500 (D) 1400 (E) 2000

27. What is the ratio of the length of a side of a square to its perimeter?
(A) 1 : 1 (B) 1 : 2 (C) 1 : 3 (D) 1 : 4 (E) None of these

28. A two-digit number has 3 in its unit digit. The sum of its digits is one seventh of the number itself. What is the number?
(A) 73 (B) 63 (C) 53 (D) 50 (E) None of these

29. Running at the same constant rate, 6 identical machines can produce a total of 270 bottles per minute. At this rate, how bottles could 10 such machines produce in 4 minutes?
(A) 648 (B) 1800 (C) 2700 (D) 10800 (E) 2400

30. Which is closest to 1?

(A) $\frac{3}{3+.03}$ (B) $\frac{3}{(3+.03)^2}$ (C) $\frac{3}{3+.3}$ (D) $\frac{3}{3+(.03)^2}$ (E) $\frac{3}{(3+.3)^2}$

SECTION II: LANGUAGE & COMMUNICATION

Questions 31 – 36: Underlined parts of the following sentences may contain error(s) in grammar, diction, usage or idiom. Choose the underlined part that is incorrect. **If there is no error, then darken the box 'E' in your answer sheet.**

31. We were terrified (A) by sounds: the screaming of (B) the wind the restless rustle (C) of leaves in the trees; and the sudden, overwhelming (D) explosions of thunder.

32. The captain of the squad was a sophomore, one of last year's (A) freshmen (B) team, a player of great intelligence, and above all, (C) endurance. (D)

33. Everybody is expected (A) to attend (B) the afternoon session but (C) the field supervisor, the sales manager, and I. (D)

34. There (A) was so much conversation in back of (B) me that (C) I couldn't (D) hear the actors on the stage.

35. The reason for (A) my prolonged absence (B) from class was (C) because (D) I was ill for three weeks.

36. Since we were caught completely unaware, (A) the affect (B) of the Managing Director's remark was startling; (C) some were shocked, but (D) others were angry.

Questions 37 – 42: Choose the word that is most nearly **SIMILAR** in meaning to the given word

37. OXIDIZE
(A) Misplace (B) Soak (C) Rust (D) Freeze (E) None of these

38. TAMPER
(A) Assist (B) Interfere (C) Gamble (D) Intimidate (E) None of these

39. MONSTROUS
(A) Dauntless (B) Ample (C) Logical (D) Malefactor (E) None of these

40. FOE
(A) Optimistic (B) Enemy (C) Fertile (D) Gloomy (E) None of these

41. PLACID
(A) Circumspect (B) Inept (C) Honor (D) Serene (E) None of these

42. MISDEMEANOR
(A) Pragmatic (B) Indignity (C) Peccadillo (D) Illiteracy (E) None of these

Questions 43 – 48: Choose the pair that expresses the relationship similar to the one expressed by the given pair of words

43. CAPTAIN : TEAM
(A) Mascot : Troop (B) Voter : Senate (C) Partner : Marriage
(D) Chief : Tribe (E) Musician : Band

44. APRON : CLOTHING
(A) Pillow : Bedding (B) Curtain : Theatre (C) Banner : Flagpole
(D) Towel : Rack (E) None of these

45. SAND : DUNE
(A) Tree : Forest (B) Rock : Bolder (C) Shower : Deluge
(D) Calmor : Tumult (E) Twig : Log

46. DECODE : UNDERSTAND
(A) Detonate : Explode (B) Study : Research (C) Destroy : Build
(D) Skill : Practice (E) Sow : Reap

47. FRAGILE : BREAK
(A) Vital : Destroy (B) Hostile : Invite (C) Vivid : Grow
(D) Flexible : Bend (E) None of these

48. ASYLUM : SHELTER
(A) Stronghold : Defense (B) Harbor : Concealment (C) Palisade : Display
(D) Hospice : Exile (E) None of these

Questions 49 – 54: Select the word or words, which appropriately fill-in the gap in each sentence.

49. In a time of fiscal crisis, such lavish expenditure must be _____.
(A) quickened (B) corrected (C) curtailed (D) justified (E) adjusted

50. The officers of the corporation promised there would be no _____; nothing would be held against the strikers.
(A) truce (B) retaliation (C) favoritism (D) reservations (E) scabs

51. Feeling restless and unhappy, he left the house to take a quiet stroll, hoping the tone of the day would not decline further into _____ and uncertainty.
(A) dissonance (B) ardor (C) perversity (D) pretense (E) reticence

52. Because the novel was so long. Jalil decided to read the _____ version.
(A) lengthened (B) smaller (C) abridged (D) famous (E) humorous

53. _____ a parliamentary system, the prime minister must be appointed on the basis of the distribution of power in the parliament.
(A) Considered (B) To be considered (C) Considering (D) Considers (E) Is considering

54. The psychologist set up the experiment to test the rat's _____; he wished to see how well the rat adjusted to the changing conditions it had to face.
(A) reflexes (B) communicability (C) stamina (D) adaptability (E) pragmatism

Questions 55 – 60: read the following passage and answer the questions.

New observations about the age of some globular clusters in our Milky Way galaxy have cast doubt on a long-held theory about how the galaxy was formed. The Milky Way contains about 125 globular clusters (compact groups of anywhere from tens of thousands to perhaps a million stars) distributed in a roughly spherical halo around the galactic nucleus. The stars in these clusters are believed to have been born during the formation of the galaxy, and so may be these clusters are believed to have been born during the formation of the galaxy, and so may be considered relics of the original galactic nebula, holding vital clues to the way the formation took place.

The conventional theory of the formation of the galaxy contends roughly 12 to 13 billion years ago the Milky Way formed over a relatively short time (about 200 million years) when a spherical cloud of gas collapsed under the pressure of its own gravity into a disc surrounded by a halo. Such a rapid formation of the galaxy would mean that all stars in the halo should be very nearly the same age.

However, the astronomer Michael Bolte has found considerable variation in the ages of globular clusters. One of the clusters studied by Bolte is 2 billion years older than most other clusters in the galaxy, while another is,2 billion years younger. A colleague of Bolte contends that the cluster called Palomar 12 is 5 billion years younger than most other globular clusters.

To explain the age differences among the globular clusters, astronomers are taking a second look at "renegade" theories. One such newly fashionable theory, first put forward by Richard Larson in the early 1970's, argues that the halo of the Milky Way formed over a period of a billion or more years as hundreds of small gas clouds drifted about, collided lost orbital energy, and finally collapsed into a centrally condensed elliptical system. Larson's conception of a "lumpy and turbulent" protogalaxy is complemented by computer modeling done in the 1970's by mathematician Alan Toomre, which suggests that closely interacting spiral galaxies could lose enough orbital energy to merge into a single galaxy.

55. The passage is primarily concerned with discussing
(A)the importance of determining the age of globular clusters in assessing when the Milky Way galaxy was formed
(B)recent changes in the procedures used by astronomers to study the formation of the Milky Way galaxy.
(C) current disputes among astronomers regarding the size and form of the Milky Way galaxy.
(D) the effect of new discoveries regarding globular clusters on theories about the formation of the Milky Way galaxy
(E)the origin, nature, and significance of groups of stars known as globular clusters.

56. According to the passage, one way in which Larson's theory and the conventional theory of the formation of the Milky Way galaxy differ is in their assessment of the
(A)amount of time it took to form the galaxy
(B)size of the galaxy immediately after its formation
(C) particular gases involved in the formation of the galaxy
(D) importance of the age of globular clusters in determining how the galaxy was formed
(E)shape of the halo that formed around the galaxy.

57. Which of the following, if true, would be most useful in supporting the conclusions drawn from recent observations about globular clusters?
(A)There is firm evidence that the absolute age of the Milky Way galaxy is between 10 and 17 billion years.
(B)A survey reveals that a galaxy close to the Milky Way galaxy contains globular clusters of ages close to the age of Palomar 12.
(C) A mathematical model prove that small gas clouds move in regular patterns.
(D) Space probes indicate that the stars in the Milky Way galaxy are composed of several different types of gas.
(E)Individual stars in the halo of the Milky Way galaxy seem to have wide discrepancies in their ages.

58. If Bolte and his colleague are both correct, it can be inferred that the globular cluster Palomar 12 is approximately
(A)5 billion years younger than any other cluster in the galaxy.
(B)the same age as most other clusters in the galaxy.
(C) 7 billion years younger than another cluster in the galaxy.
(D) 12 billion years younger than most other clusters in the galaxy.
(E)2 billion years younger than most other clusters in the galaxy.

59. Which of the following most accurately states a finding of Bolte's research, as described in the passage?
(A)The globular clusters in the Milky Way galaxy are 2 billion years older than predicted by the conventional theory.
(B)The ages of at least some globular clusters in the Milky Way galaxy differ by at least 4 billion years.
(C) One of the globular clusters in the Milky Way galaxy is 5 billion years younger than most others.
(D) The globular clusters in the Milky Way galaxy are significantly older than the individual stars in the halo.
(E)Most globular clusters in the Milky Way galaxy are between 11 and 15 billion years old.

60. The author of the passage puts the word "renegade" (in the last paragraph) in quotation marks most probably in order to
(A)emphasize the lack of support for the theories in question
(B)contrast the controversial quality of the theories in question with the respectable character of their formulators
(C) generate skepticism about the theories in question

(D) ridicule the scientists who once doubted the theories in question
(E)indicate that the theories in question are no longer as unconventional as they once seemed.

SECTION III: ANALYTICAL ABILITY

61. The interview is an essential part of a successful hiring program because with it job applicants with unsuitable personalities to the requirement of the job will be eliminated from consideration. The argument above logically depends on which of the following assumptions?
(A)A hiring program will be successful if it includes interviews.
(B)Interviewers can accurately identify applicants whose personalities are unsuited to the requirement of the job.
(C) Interview is a more important part of a successful hiring program than is the development of a job description.
(D) The only purpose of an interview is to evaluate whether job applicants personalities are suited to the requirement of the job
(E)The fit of job applicants personalities to the requirement of the job was once the most important hiring decisions.

62. At the same level of income, rural households in Bangladesh have more purchasing power than those of the urban or the suburban households. Some of the income urban and sub urban households use for food and shelter can be used by rural households for other needs. Which of the following is best supported by the statement above?
(A)The average rural household includes more people than does the average urban and sub urban households.
(B)Rural households have lower food and housing costs than do either urban or sub urban households
(C) Sub urban households generally have more purchasing power than do either rural or urban households.
(D) The median income of urban and sub urban households is generally higher than that of rural households.
(E)All three types spend more of their income on housing than on all other purchases combined.

Questions 63 – 67 are based on the following:
All electronic administrative messages in IBA are transmitted by means of a message network that connects eight computers: Q, R, S, T, W, X, Y, and Z. All of the connections are two-way, so that messages can be sent back and forth between any two connected computers. Any given message enters and leaves a given computer at most once. The computers are connected only in the following way:
Q is connected to R and to T.
S is connected to R and to T.
W is connected to S and to Y.
X is connected to S, to Y, and to Z.

63. The path followed by messages sent from Y to Z must include which of the following computers?
(A) Q (B) R (C) S (D) X (E) None of these

64. Messages sent from Q to W can go along any of the following paths EXCEPT
(A) Q to R to S to W (B) Q to T to S to W (C) Q to R to S to T to W
(D) Q to R to S to X to Y to W (E) None of these

65. Which of the following specifies in its entirety a sequence, from first to last, of computers through which a message from Z to T can pass?
(A) Z, Q, T (B) Z, X, Q, T (C) Z, X, Y, T (D) Z, X, Y, W, S, T (E) None of these

66. What is the minimum number of computers, excluding the originating and destination computers, through which a message from Z to X must pass?
(A) One (B) Two (C) Three (D) Four (E) None of these

67. A message from one of the computers to another is to be transmitted through all of the other computers, with each transmitting computer sending the message to only one other computer. Which of the following pairs could be the originating computer and the computer finally receiving the message?
(A) Q and W (B) Q and Z (C) R and Z (D) W and T (E) None of these

Questions 68 – 73 are based on the following:

In a certain society, each person belongs to a clan, and each clan has one of the following five symbols: bear, wolf, elk, bird, and fish. Marriage in the society is governed by the following rules:

- A member of one clan can marry a person who is also a member of his or her clan.
- Men who are members of the wolf clan can marry women who are members of the elk and bird clans.
- Women who are members of the wolf clan can marry men who are members of the bird and fish clans.
- Men who are members of the bird clan can marry women who are members of the fish clan.
- These are the only marriages permitted. A son belongs to the same clan as his father, and a daughter belongs to the same clan as her mother.

68. Which of the following provides a complete and accurate list of the symbols of men to whom a woman of the fish clan could be married?
(A) Wolf (B) Bird (C) Fish (D) Bird, fish (E) Wolf, bird, fish

69. If a man whose symbol is the wolf wishes to marry a woman outside of his own clan, then he could marry a woman with which of the following symbols?
i) Bear ii) Elk iii) Bird
(A) I only (B) II only (C) III only (D) II and III only (E) I, II, and III

70. The son of a woman whose symbol is the fish could be a member of which of the following clans?
i. Elk ii. Bird iii. Fish
(A) I only (B) III only (C) I and II only (D) II and III only (E) None of these

71. If a man's symbol is the wolf, then which of the following could be his sister's symbol?
I. Wolf II. Elk III. Bird
(A) I only (B) II only (C) I and II only (D) II and III only (E) I, II and III

72. The daughter of a man whose symbol is the elk could only marry a man with which of following symbols?
I. Wolf II. Elk III. Bird
(A) I only (B) III only (C) I and II only (D) II and III only (E) I, II, and III

73. If a man's symbol is the fish, then which of the following is a complete and accurate list of the clans to which his wife's father could belong?
(A) Wolf, bird (B) Wolf, bird, fish (C) Wolf, fish
(D) Bear, wolf, fish (E) Bear, wolf, elk, bird, fish

Questions 74 – 76 are based on the following:

The Officers of Ranko Manufacturing are analyzing their company's chances of winning a large contract to manufacture equipment for Govt. Roads and Highways Department. Ranko is one of five companies competing for the contract: the others are Seaway Ltd. Toto industries. Upal Company Ltd, and Vanu& Co. The contract will be awarded on the basis of points given in three categories: cost, amount of experience in similar contracts, and quality of equipment. In each category, the company that is best in that category will receive 5 points, the second best will receive 4 points, and so on down to 1 point. There will be no tie within any of the categories. The company that receives the highest total number of points will be awarded the contract. In the event of a tie, the company with the higher number of 5's will be awarded the contract; if the number of 5's is the same, additional criteria will be used to break the tie.

74. The highest total number of points that any of the competing companies can receive is
(A) twelve (B) fourteen (C) fifteen (D) twenty (E) None of these

75. If no company is given the same point in any two categories, the highest possible winning total is
(A) eleven (B) twelve (C) thirteen (D) fourteen (E) None of these

76. If the five companies tie with nine points each, which of the following CANNOT be the distribution of points received by any of the companies?
(A) Three 3's (B) Two 4's and one 1 (C) One 5 and two 2's
(D) One 4, One 3, and One 2 (E) None of these

77. Imon was both the 15th highest and the 15th lowest in a tennis tournament. How many participants were in the tournament?
(A) 28 (B) 29 (C) 30 (D) 31 (E) 32

78. A spaceship received three messages in a strange language from a distant planet. The astronauts studied these messages and found that "ElrosAldarionElendil" means "Danger Rocket Explosion" and "EdainMnyaturElros" means "Danger Spaceship Fire" and "AldarionGimilzorGondor" means "Bad Gas Explosion". What does "Elendil" mean?
(A) Danger (B) Explosion (C) Fire (D) Rocket (E) None of these

79. The cost of living in a given area is directly proportional to the wages paid by the dominant industry in that area. In Moomba, the dominant industry is farming. However, in Sepra, the dominant industry is auto-manufacturing.
Thus, it is fair to conclude that *the cost of living must be higher in Sepra than in Moomba.*
The argument above assumes that:
(A) the quality of life in Sepra is higher than the quality of life in Moomba.
(B) the number of people manufacturing autos in Moomba is higher than the number of people manufacturing autos in Sepra.
(C) the cost of living in Sepra is higher than the cost of living in any other area.
(D) wages paid by the auto manufacturing industry are higher than those of the farming industry.
(E) automobile workers in Sepra are likely to leave Sepra and move to areas with a lower cost of living

80. In a game, exactly six inverted cups stand side by side in a straight line, and each has exactly one ball hidden under it. The cups are numbered consecutively 1 through 6. Each of the balls is painted a single solid color. The colors of the balls are green, magenta, orange, purple, red, and yellow. The balls have been hidden under the cups in a manner that conforms to the following conditions:
- The purple ball must be hidden under a lower-numbered cup than the orange ball.
- The red ball must be hidden under a cup immediately adjacent to the cup under which the magenta ball is hidden.
- The green ball must be hidden under cup 5.

Which of the following could be the colors of the balls under the cups, in order from 1 through 6?
(A) Green, yellow, magenta, red, purple, orange
(B) Magenta, green, purple, red, orange, yellow
(C) Magenta, red, purple, yellow, green, orange
(D) Orange, yellow, red, magenta, green, purple
(E) None of these

Part II : Written Part [20 Marks]

A. Fill in the gaps with the correct form of words in brackets. [5 marks]

1. The ability of (use) _____ language properly in different circumstances means communicative competence.
2. Mr. Belayet was full of (enthusiastic) _____
3. It is an (approximate) _____ that 100,000 children lose the chance of receiving German citizenship every year.
4. The audience rose without (utter) _____ a word and went home.
5. It is not necessary to (familiar) _____ Shafayet's voice to Nafis.

B. "We can learn more about a society by observing how its people spend their leisure time than by observing them at work." [15 Marks]

Discuss the extent to which you agree or disagree with the opinion stated above. Support your views with reasons and/or examples from your own experience, observations, or reading.

ANSWER KEY

Section 1									
1.D	2.C	3.D	4.B	5.B	6.E	7.E	8.D	9.C	10.C
11.A	12.B	13.B	14.D	15.C	16.D	17.B	18.B	19.C	20.A
21.A	22.A	23.E	24.D	25.D	26.D	27.D	28.B	29.B	30.D

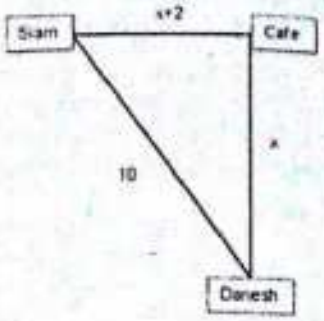
Section 2									
31.C	32.B	33.D	34.B	35.D	36.B	37.C	38.B	39.E	40.B
41.D	42.C	43.D	44.E	45.C	46.A	47.D	48.A	49.C	50.B
51.A	52.C	53.B	54.D	55.D	56.A	57.E	58.C	59.B	60.E

Section 3									
61.B	62.B	63.D	64.C	65.D	66.E	67.C	68.D	69.D	70. D
71.E	72.C	73.B	74.C	75.B	76.A	77.B	78.D	79.D	80.C

Solution of MBA Admission Test 2005 - 06

Section I: Mathematics

1. (D) 1995 এ bank এর সংখ্যা ছিল = $60 \times 0.45 = 27$
   1997 এ bank এর সংখ্যা হল = $144 \times 0.25 = 36$
   Therefore, percentage increase = $(9/27) \times 100 = 33.33\%$
2. (C) যেহেতু smallest possible number of coins জানতে চাওয়া হয়েছে, কম সংখ্যক coins বেশী pocket এ দিতে হবে। তাই আমরা 3টি pocket এ 1টি করে coin দিব। বাকিগুলোতে যথাক্রমে 2, 3, 4 এবং 5টি coins থাকবে। So, total number of coins $= 1 + 1 + 1 + 2 + 3 + 4 + 5 = 17$
3. (D) Number of cars with air conditioning, n(A) = 45
   Number of cars with power windows, n(W) = 30
   And, $n(A \cap W) = 12$
   Now, $n(A \cup W) = 45 + 30 - 12 = 63$
   So, number of cars which have neither air conditioning nor power windows=65–63= 2
4. (B) সেই cylinder টার-ই সবচেয়ে বেশী volume হবে যেটার radius সবচেয়ে বেশী হবে। এখানে maximum radius হল 4 যখন cylinder টির base 8 by 10 থাকে, height হবে 6।
5. (B) মনেকরি, bottom row তে আছে 'n' টি brick. তাহলে, বাকি row গুলোতে আছে (n–1), (n–2), (n–3), (n–4) টি brick.
   Now,
   $n + (n-1) + (n-2) + (n-3) + (n-4) = 75$
   $\Rightarrow n = 17$
6. (E) $10 - 2x > 18$
   $\Rightarrow 2x < -8$
   $\Rightarrow x < -4$
7. (E) Chittagong = Dhaka ÷ 2, and Chittagong = 4 x Jessore
   Therefore, Jessore = Dhaka ÷ 8
   Now Dhaka = 37.3 ÷ 3
   Therefore, Jessore = 37.3 ÷ 24 = 1.55 millions
8. (D) 2/3 of total number of games = 17 + 3 = 20
   So, total number of games = 30
   Number of wins required to get ¾ th wins = 30*3 ÷ 4 = 22.5 = 23
   Maximum number of losses in total = 7
   Number of games the team can lose more = 7 – 3 = 4



9. (C) From the diagram, we can see that
$10^2 = x^2 + (x+2)^2$
$\Rightarrow x = 6$
$\Rightarrow x+2 = 8$

10. (C) মনেকরি, পরবর্তীতে hardback copies বিক্রয় হয়েছে = x টি।
অতএব, paperback copies বিক্রয় হয়েছে = 9x টি
প্রশ্নমতে, $36,000 + x + 9x = 441,000$
$\Rightarrow 10x = 405,000$
$\Rightarrow 9x = 364,500$

11. (A) Tk.15 dividend আসে 12 টি share এ। অতএব, Tk.160 dividend আছে = $(12 \times 160) \div 15$, or, 128 টি share এ।

12. (B) যেহেতু AB = BE, $\angle AEB = 45^\circ$. Now, $\angle AEC = 135^\circ$. Therefore, $x = \angle AFC = 135^\circ$.

13. (B) After converting \$70 to francs in free rate, the man will get = $400 \times 70 = 28,000$ francs. Again, after converting it to dollars in the official rate, he will get = $28,000 \div 350 = \$80$ Therefore, profit = \$80 – \$70 = \$10

14. (D) x যদি positive even integer হয়, $3x^2$ even হবে এবং 4 একটি even integer. Therefore, $3x^2 + 4$ will be even.

15. (C) Using the formula for compound interest, we get that the compounded amount at the end of the year = $2000 \times (1 + 0.03)^2 = 2122$

16. (D) এই ক্ষেত্রে, number of rows কে 180 এর factor হতে হবে, যেহেতু প্রত্যেক row তে সমান সংখ্যক students বসে। যেহেতু 40, 180 এর factor না, এখানে 40 টা row থাকতে পারবে না।

17. (B) Per month rent করলে 1 year এ rent হয় = $300 \times 12 = 3600$
Per week rent করলে 1 year এ rent হয় = $100 \times 52 = 5200$
So, savings = 5200 – 3600 = 1600

18. (B) Here, B + F = 39.50.....(i)
B + S = 44.00.....(ii)
As, S = 2F
We get, B + 2F = 44.00.....(iii)
From (i) and (iii), we get,
F = 4.50

19. (C) মনেকরি, Cost = x. অতএব, Ali's amount = (x/3) – 2. Leena's amount = (x/4) + 2. According to the question,
$(x/3) - 2 + (x/4) + 2 + 15 = x$
$\Rightarrow x = 36$

20. (A) Total number of integers between 100 and 200 that are divisible by 3 starts from 102 and ends at 198. Again,(200-100)=100, Therefore, such total number is 100/3 = 33

21. (A) 3600 জনের মাঝে 1/3 যদি clerical হয় তাহলে clerical staff এর সংখ্যা = 1200. এদের মাঝে 1/3 কে বাদ দিলে, clerical staff এর সংখ্যা হয় (1200 – 400) = 800 এবং total staff এর সংখ্যা হয় (3600 – 400) = 3200. So, percentage of clerical staff = $(800/3200) \times 100 = 25\%$

22. (A) Total sales from lower level seats = 10x and that from balcony seats = 6y. According to the question, x = 3y. Therefore,
Total sales (in dollar) = 10x + 6y = 10x + 2x = 12x

23. (E) এখানে worst possible scenario assume করে নিতে হবে। আমরা ধরে নিব সেই সংখ্যা গুলো আগে আসে যাদের sum 10 হয়না। এভাবে যদি আমরা 0 থেকে আগাই তাহলে দেখব 6 পর্যন্ত গেলে 4 আর 6 এর sum 10 হয়। অতএব 7 টি number তুললে sum 10 ensure হয়।

24. (D) $32^{a+b} = 16^{a+2b}$
$\Rightarrow 2^{5a+5b} = 2^{4a+8b}$
$\Rightarrow 5a + 5b = 4a + 8b$
$\Rightarrow a = 3b$

25. (D) Ratio of red paint to total amount of paint = 5/(5+2+2) = 5:9
26. (D) এই বছরে students আছে 15 percent বেশী। Number of students = 1172×1.15 = 1400
27. (D) Square এর side 'a' হলে perimeter হয় 4a. So, Side: Perimeter = 1:4
28. (B) Let us assume that the tenth place is 'a'. Therefore, the number is (10a + 3). According to the question, 7(a+3) = 10a+3. Therefore, a = 6; the number is 63.
29. (B) In 1 minute, 6 machines can produce 270 bottles

So, in 4 minutes, 10 machines can produce = $\frac{270 \times 4 \times 10}{6}$ = 1800 Bottles

30. (D)

SECTION II: LANGUAGE

31. (C) 'Rustling' হবে, adjective 'restless' এর পর noun 'rustling' বসবে।
32. (B) It should be 'freshman'. 'Team' noun কে modify করার জন্য adjective আনতে হবে, আর adjective কখনো plural হবেনা, তাই 'freshmen' সহযোগে 'freshman' হবে।
33. (D) Subjective preposition'I'এর স্থলে objective preposition' me' বসবে।
34. (B) 'In back of' এর স্থলে 'behind' হবে। person এর পেছনে বুঝাতে' behind' ব্যবহৃত হয়, কোন বস্তুর পেছনে বুঝাতে' in back of' ব্যবহৃত হয়।
35. (D) 'because'এর স্থলে 'that'হবে। 'reason'এর পর 'because' redundancy(অত্যাধিকতা)।
36. (B) 'affect' (verb) এর স্থলে 'effect' (noun) হবে।
37. (C) Oxidize = মরচে পরা / জং ধরা= Rust
38. (B) Tamper =অনধিকার চর্চা করা / অন্যায় ভাবে হস্তক্ষেপ করা= Interfere
39. (E) Monstrous = প্রকাণ্ড। A, B, C, D কোনটার অর্থই 'প্রকাণ্ড'না।∴answeris E.
40. (B) Foe = শত্রু = Enemy
41. (D) Placid = শান্ত = Serene
42. (C) Misdemeanor = ক্ষুদ্র ভুল / ক্ষুদ্র অপরাধ=peccadillo
43. (D) Team (দল) এর প্রধান কে Captain (নেতা) বলা হয়, Tribe (গোত্র) এর প্রধান কে Chief বলা হয়।
44. (E)Apron এর ধরণের Clothing যা cloth কে ঢেকে রাখে। A, B, C, D কোনোটার সাথেই এই relation মিলেনা।
45. (C) Dune (বালিয়াড়ি) হলো অধিক Sand (বালু), Deluge (বন্যা / জলপ্লাবন) হলে অধিক Shower(বর্ষণ)।
46. (A) এখানে relation টা synonymous relation: Decode = অনুধাবন করা = Understand, Detonate = সশব্দে ফেটে যাওয়া= Explode.
47. (D) যা Fragile (ভঙ্গুর) তা Break (ভাঙ্গা) করাযায়, যা Flexible (নমনীয়) তা Bend (বাঁকানো) করা যায়।
48. (A) Asylum (আশ্রম) এর কাজ হলো Shelter (আশ্রয়) দেয়া। Stronghold (দুর্গ) এর কাজ হলো Defense (প্রতিরক্ষা) করা।
49. (C) curtail অর্থ হলো 'সংকোচন করা' বা 'কমানো';
Sentence টির অর্থ হচ্ছেঃ আর্থিক সঙ্কটের সময়, এই ধরণের অমিতব্যয়ী খরচ অবশ্যই কমাতে (curtailed) হবে।
50. (B) retaliation অর্থ হলো 'পাল্টা আক্রমণ' বা 'প্রতিশোধ'।
Sentence টির অর্থ হচ্ছেঃ Corporation এর কর্মকর্তারা প্রতিজ্ঞা করেছিলেন যে কোনো প্রতিশোধ (retaliation) নেয়া হবে না: striker দের বিরুদ্ধে কোনো ব্যবস্থাই গ্রহণ করা হবে না।
51. (A) dissonance অর্থ হলো 'বেসুর' বা 'সুরের অমিল' বা 'অনৈক্য';
Sentence টির অর্থ হচ্ছেঃ অস্থির এবং দুঃখীচিত্তে সে বাড়ি ছেড়ে এই আশা নিয়ে হাঁটতে বের হলো যে এই দিবসের সুর কখনোই বেসুরে (dissonance) এবং অনিশ্চয় ভাব মিলিয়ে যাবে না।
52. (C) abridged অর্থ হলো 'সংক্ষিপ্ত'।
Sentence টির অর্থ হচ্ছেঃ উপন্যাস টি অতি দীর্ঘ হওয়ার কারণে জলিল এটির সংক্ষিপ্ত (abridged) সংস্করণটি পড়ার সিদ্ধান্ত নিয়েছিল।
53. (B) To be considered (বিবেচিত হয়ে);
Sentence টির অর্থ হচ্ছেঃ Parliamentary system বিবেচিত হয়ে (to be considered), সংসদে ক্ষমতার বন্টনের উপর ভিত্তি করেই prime minister নিয়োগ হবেন।
C এ considering হবেনা, কারণ considering হলে Prime Minister কেই subject মনে হয় কিন্তু এখানে sentenceটা passive এবং consider parliamentary system এর subject 'Prime Minister' নয়।
∴B is the answer.

54. (D) adaptability (খাপ খাইয়ে নেয়ার ক্ষমতা / অভিযোজনক্ষমতা)। sentence এর ২য় অংশে changing condition এর সাথে rat এর adjust করার বা খাপ খাইয়ে নেয়ার কথা বলা হয়েছে।∴Dis the answer.

55. (D) Comprehension এর topic sentence (1st paragraph 1st line) এইtopic (Milky Way Galaxy র ব্যাপারে New Observation) টা বলা আছে যা পরের paragraph গুলো theory এবং findings বর্ণনা করার মাধ্যমে ক্রমশ develop করে।∴Answer is D.

56. (A). 2nd paragraph এর 2nd line এবং last paragraph এর 3rd & 4th line দেখলেই বোঝাযায় যে Milky Way র formation এর উপর conventional theory এবং Larson's theory র main difference টা amount of time এ। Conventional theory অনুযায়ী, formation এর time about 200 million years. Larson's theory অনুযায়ী, formation এর time one billion অথবা তার চেয়েও বেশি বছরের।∴Answer is A.

57. (E) 3rd paragraph এ পরিষ্কার ভাবে age discrepancy-এর ইঙ্গিত দেয়া আছে। ∴Answer is E.

58. (C) Bolte এবং তার colleague দুই জনের কথাই সত্য হলে A, B, D এবং E incorrect। 3rd paragraph এ Bolte এর মতো Palomar-12 is2 billion years older, তার colleague এরমতে 5 billion years younger, ২ জনের কথা সত্য হলে 'Palomar-12 is (5+2=) 7 billion years younger than another cluster in the galaxy.'
∴Answer is C.

59. (B) article টির 3rd paragraph এর 2nd & 3rd line এ Bolte এর 2 billion years older এবং 2 billion years younger, সব মিলিয়ে 4 years age variation / difference এর কথা বলা হয়েছে। ∴Answer is B.

60. (E) renegade অর্থ হলো বাতিক্রম বা unconventional. Renegade কে quotation mark দিয়ে চিহ্নিত করার অর্থ হচ্ছে এই theory গুলোকে আগে renegade অথবা unconventional মনে করা হলেও এখন আর সেগুলো renegade অথবা unconventional নয়। ∴Answer is E.

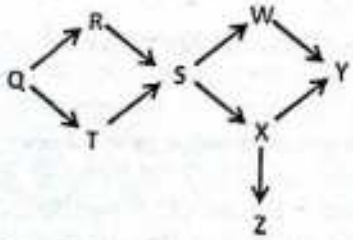
ANALYTICAL ABILITY

61. (B) এই Question stem টি তে বলা হয়েছে যে Interview একটি successful hiring program কারণ এর মাধ্যমে job requirement এর সাথে unsuitable personality সহ candidate দের eliminate করা যায়। কিন্তু এটি কেবল মাত্র তখনই সম্ভব হবে যখন interviewer successfully job requirement এর সাথে unsuitable personality-দের identify করতে পারবে। Therefore the assumption is:
Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.

62. (B) এই argument-টির premise-এ বলা হয়েছে যে একই income level এ rural household এর purchasing power, urban বা suburban household থেকে বেশী হয় এবং Food and shelter এরজন্য income এর যে অংশ urban or suburban household খরচ করে তার কিছু অংশে rural household অন্য কাজে খরচ করতে পারে। এটি তখনি সম্ভব হবে যখন rural household এ urban or suburban household এর থেকে কম food and housing cost থাকবে এবং তাদের কিছু অংশে বেচে যাবে। ∴Answer is B.

Questions 63-67

Q, R, S, T, W, X, Y, Z এর মাঝে নিম্নোক্ত উপায়ে message পাঠানো যায়।



63. (D) Y থেকে Z এ যেতে হলেX হয়ে যেতে হয়।
(d) X

64. (C) ছবি থেকে দেখা যায় যে Q, R, S, T এর পরে W তে যাওয়া যায় না।
(c) Q to R to S to T to W

65. (D) Z থেকে T তে যেতে হলেX, Y, W, S হয়ে যেতে হয়।
(d) Z, X, Y, W, S, T

(E) Z থেকে X এ যেতে হলে অন্য কোন computer লাগেনা।
(e) None of these
(C) R থেকে Z এ যেতে হলে বাকি সব computer pass করা যায়।The path is R to Q to T to S to W to Y to X to Z.
(c) R and Z

Questions 68–73:

এই puzzle এর conditions গুলো হল:
a. একই clan এর মধ্যে ছেলে মেয়েরা বিয়ে করতে পারবে
b. Wolf clan এর ছেলেরা Elk ও Bird clan এর মেয়েদের বিয়ে করতে পারবে
c. Wolf clan এর মেয়েরা Fish ও Bird clan এর ছেলেদের বিয়ে করতে পারবে
d. Bird clan এর ছেলেরা Fish clan এর মেয়েদের বিয়ে করতে পারবে
e. এর বাইরে অন্য কোন বিয়ে করা যাবেনা। ছেলেরা তাদের বাবাদের clan পায় এবং মেয়েরা তাদের মায়েদের clan পায়।

68. (D) Fish clan এর মেয়েরা Fish clan [Condition (a)] ও Bird Clan [Condition (d)] এর ছেলেদের বিয়ে করতে পারবে।
Ans: Bird, Fish

69. (D) Wolf clan এর ছেলেরা Elk ও Bird clan এর মেয়েদের বিয়ে করতে পারবে। [Condition (b)]
Ans: II and III only

70. (D) Fish clan এর মেয়েদের son এর clan হবে তার husband এর clan.Fish clan এর মেয়েরা বিয়ে করতে পারে Fish ও Bird clan এর ছেলেদের [Question 68]
Ans: Fish and Bird clan

71. (E) একটি ছেলে Wolf clan এ হওয়া মানে তার বাবাও Wolf clan এর। In that case, তার মা হতে পারে Elk [Condition (b)], Bird [Condition (b)] অথবা Wolf clan [Condition (a)]-এর। তাই তার বোন ও হতে পারে Elk, Bird or Wolf clan এর।
Ans: I, II, and III

72. (C) একটি elk clan এর পুরুষ বিয়ে করতে পারে Elk clan এর মহিলাকে। অতএব তার মেয়ে হবে Elk Clan এর। Elk clan এর সেই মেয়ে বিয়ে করতে পারবে Elk [Condition (a)] অথবা Wolf Clan [Condition (b)] এর ছেলেকে।
Ans: I and II only

73. (B) যদি একটি লোকের symbol Fish হয়, তার wife এর clan হতে পারে Fish [Condition (a)] অথবা Wolf clan [Condition (c)] এর। তার মা'ও same clan এর হবে। এখন, Fish clan এর মেয়েরা বিয়ে করতে পারে Fish [Condition (a)] অথবা Bird Clan [Condition (d)] এর ছেলেদের। আবার Wolf clan এর মেয়েরা বিয়ে করতে পারে Wolf [Condition (a)] clan এর ছেলেদের। তাই তার বাবা হতে পারে Bird, Fish অথবা Wolf clan এর।
Ans: Wolf, Bird, Fish

Questions 74–76

74. (C) Highest point তখনি হবে যখন 3 টাতেই কেউ 5 পাবে। So, highest point = 5 + 5 + 5 = 15.
(c) Fifteen

75. (B) যদি কোন company 2 টা category তে same points না পায়, highest point = 5 + 4 + 3 = 12.
(b) Twelve

76. (A) কোন company যদি 3 টাতেই 3 পায় অর্থাৎ total 9, তাহলে যারা 5 পায় তাদের total score 9 বানানো possible হয় না। যেহেতু প্রশ্নানুসারে সব company ই 9 score করে, 1টা company 3 টা 3 পেতে পারে না।
(a) Three 3's

77. (B) 15th highest = 15th lowest. Therefore, Imon এর থেকে বেশী ছিল 14 জন এবং Imon এর থেকে কম ছিল 14 জন। Therefore, total number = 14 + 1 + 14 = 29.
(b) 29

78. (D) Based on the question, we see,
"Elros Aldarion Elendil" = Danger Rocket Explosion
"Edain Mriyatur Elros" = Danger Spaceship Fire [এ দুটোর মাঝে common word গুলো হল Elros and Danger. So, Elros = Danger]

"Aldarion Gimilzor Gondor" = Bad Gas Explosion [প্রথম ও শেষ টাকে common words হোল Aldarion এবং Explosion. So, Aldarion = Explosion]
Therefore, মাঝি খাকে Elendil এবং Rocket.
(d) Rocket

79. (D) এই argument টির premise এ বলা হয়েছে যে, যে কোন এলাকাই Cost of Living Index, Dominant industry এর wage এর সমানুপাতিক অর্থাৎ, Wage বেশী হলে Cost of Living index বেশী হয় এবং Wage কম হলে Cost of Living index কম হয়। অপর একটিতে বলা হয়েছে Moomba এর dominant industry farming এবং Sepra এর auto-manufacturing. এখানে থেকে conclude করা হয়েছে যে Sepra-এর Cost of Living Index, Moomba-এর থেকে বেশী। এটি তখনি সত্য হবে যখন Sepra-এর wage (Auto-manufacturing wage), Moomba-এর wage (farming wage) এর থেকে বেশী হবে।Therefore the assumption is:
Wages paid by the auto manufacturing industry are higher than those of the farming industry.

80. (C) এখানে conditions এর উপরে base করে একটা করে option বাদ দিতে হবে। Option (a) violates condition (3) কারণ Green ball কে cup 5 এর নীচে রাখা হয়নি। Option (b) violates Condition (2) কারণ Red Ball-কে Magenta Ball এর পাশে রাখা হয়নি। Option (d) violates Condition (1) কারণ Purple Ball-কে Orange Ball এর থেকে Lower Numbered Cup এ রাখা হয়নি।So the answer is C.

MBA (IBA)

Admission Test Question (2007-2008) with Solution

Section I: Mathematics — 30 x 1= 30 marks

Instruction: Solve the following and mark the correct answers on your Answer Sheet. Geometric figures are not drawn to scale.

01. If both 5^2 and 3^2 are factors of x where $x = n \times 2^5 \times 6^2 \times 7^3$, what is the smallest possible positive value of n?
(A) 25 (B) 27 (C) 45 (D) 75 (E) none of these

02. If a and b are integers such that $a + b = 5$, which of the following must be true?
I. The product of a and b is odd. II. If a is odd then b must be even.
III. If a is negative, then b must be positive.
(A) I only (B) II only (C) I and II only
(D) II and III only (E) I, II and III

03. Half the difference between two numbers is 2. The sum of the greater number and twice the smaller number is 13. Find the smaller number.
(A) 2 (B) 3 (C) 5 (D) 7 (E) none of these

04. The product of two consecutive numbers is 12 more than the square of the smaller number. Find the greater number.
(A) 9 (B) 11 (C) 12 (D) 13 (E) none of these

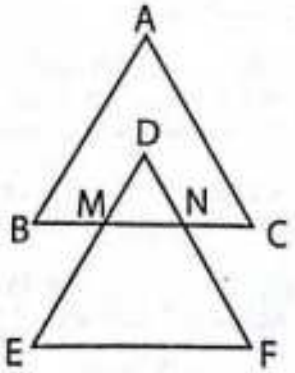
05. Equal amount of water were poured into two empty jars of different capabilities, which made one jar $\frac{1}{4}$ full and the other jar $\frac{1}{3}$ full. If the water in the jar with lesser capacity is then poured into the jar with the greater capacity, what fraction of the larger jar will be filled with water?
(A) $\frac{1}{7}$ (B) $\frac{3}{4}$ (C) $\frac{1}{2}$ (D) $\frac{7}{12}$ (E) none of these

06. Six men can complete a work in 5 days if they work for 8 hours per day. How many days will 4 men take to do the same work if they work only 5 hours per day?
(A)12 (B) 16 (C) 24 (D) 32 (E) none of these

07. If x is a number such that $-2 \le x \le 2$, which of the following has the largest possible absolute value?
(A) $3x - 1$ (B) $x^2 + 1$ (C) $3-c$ (D) $x-3$ (E) $x^2 - x$

08. $R^C \times R^D \times R^E = R^{-12}$. If R > 0 and C, D and E are each different negative integers, what is the possible smallest value of C?
(A) –10 (B) –9 (C) –6 (D) –1 (E) none of these

09. In the figure, AB = 2 DE. ABC and DEF are both equilateral triangles. If MN = 0.5EF, what is the ratio of the areas MNEF and ABC?

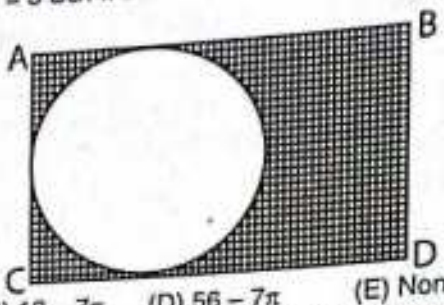


(A) $\frac{1}{2}$ (B) $\frac{1}{4}$ (C) $\frac{1}{8}$ (D) $\frac{3}{16}$ (E) none of these

10. You have to pay 15% tax on a Mercedes car and 20% tax on a BMW car. If the price of BMW is 20% more than that of the Mercedes, then the tax paid for a BMW is what percent of the tax paid for Mercedes?
(A) 120 (B) 133.33 (C) 145 (D) 160 (E) none of these

11. Age of the father is equal to the sum of ages of his three sons. If in 19 years, one third of father's age will be equal to one fifth the sum of the ages of the sons. What is the age of the father?
(A) 28 (B) 38 (C) 48 (D) 58 (E) none of these

12. In the rectangle ABCD, 2 AB = 3 BD. If the radius of the circle is $\sqrt{7}$ find the area of the shaded region.



(A) $42 - 7\pi$ (B) $32 - 5\pi$ (C) $13 - 7\pi$ (D) $56 - 7\pi$ (E) None of these

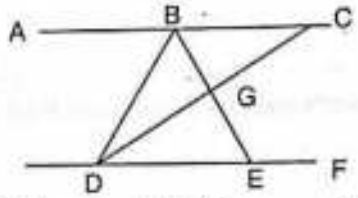
13. A candidate scoring 25% marks in an examination fails by 30 marks while another candidate who scores 50% marks gets 30 marks more than the pass mark. What is the pass mark?
(A) 33.33 (B) 50 (C) 66.66 (D) 70 (E) None of these

14. A litre of water is evaporated from 8 litres of salt solution containing 5% salt. What will be the Percentage of salt in the solution after evaporation?
(A) 6.2 (B) 5.7 (C) 7.2 (D) 4.6 (E) None of these

15. The ratio of marbles collected by Amir, Babu and Enam is 1:2:5. If Babu gives 3 marbles to Amir and receives 6 marbles from Enam the ratio becomes 3:5:8. How many marbles did Enam have?
(A) 25 (B) 30 (C) 35 (D) 45 (E) None of these

16. A man deposited Tk. 50,000 at a certain Interest for 1 year. After 1 year, he received Tk. 55,280 as both principal and interest after deduction of Tk. 120 as government levy and 10% on interest as government tax. What was the interest rate in percentage?
(A) 12 (B) 12.5 (C) 13 (D) 15 (E) None of these

17. The straight lines ABC and DEF are parallel, with DB = BE. $\angle ABD = 70°$ and $\angle BDG = 25°$. What is the value of $\angle BGC$?

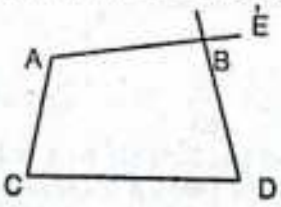


(A) 60° (B) 65° (C) 66° (D) 72^0 (E) None of these

18. A train normally travels 60 miles at a certain speed. On a day, due to mechanical problem, the train's speed is reduced by 10 mph so that the journey takes 3 hours longer. What is the normal speed of the train?
(A) 20 (B) 25 (C) 32 (D) 45 (E) none of these

19. 55 men can finish a work in 42 days. How many additional men must be engaged to complete the work 9 days earlier?
(A) 15 (B) 16 (C) 17 (D) 18 (E) none of these

20. In the figure, $\angle CAB = 2\angle CDB$, $\angle ABD = 3\angle ACD$ and $\angle CDB = 2\angle ACD$. Calculate $\angle DBE$.



(A) 90° (B) 60° (C) 88° (D) 72° (E) none of these

21. If $m:n = 2:3$, find the value of $\frac{3m+5n}{6m-n}$

(A) $\frac{3}{7}$ (B) $\frac{7}{3}$ (C) $\frac{5}{3}$ (D) $\frac{4}{7}$ (E) none of these

22. If y% of x = 29 then x = ?

(A) 2900 (B) $\frac{29x}{y}$ (C) $\frac{29y}{x}$ (D) 29xy (E) none of these

23. X can do a work in 12 days. Y is 60% more efficient than X. How many days will Y require to complete the same work?

(A) 8 (B) 7.5 (C) 7.2 (D) 6.66 (E) none of these

24. A person bought an article and sold it at a loss of 10%. If he had bought it for 20% less and sold it for Tk. 55 more, he would have made a profit of 40%. What was the cost of the article taka?

(A) 350 (B) 300 (C) 250 (D) 150 (E) none of these

25. An empty metal box weighs 10% of its total weight when filled with varnish. If the weight of a partly filled box is one-half that of a completely filled box, wheat fraction of the box is filled?

(A) $\frac{3}{5}$ (B) $\frac{5}{9}$ (C) $\frac{1}{2}$ (D) $\frac{4}{9}$ (E) none of these

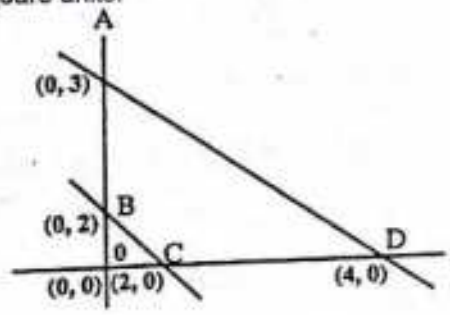
26. $\frac{1}{3^8}+\frac{1}{3^9}+\frac{2}{3^9}=?$

(A) $\frac{1}{3^6}$ (B) $\frac{2}{3^8}$ (C) $\frac{\sqrt{3}}{3^9}$ (D) $\frac{4}{3^8}$ (E) none of these

27. X can do a work in the same time in which Y and Z together can do it. If X and Y together can do it in 10 days, and Z alone can do it in 50 days, how many days will Y require to do the work alone?

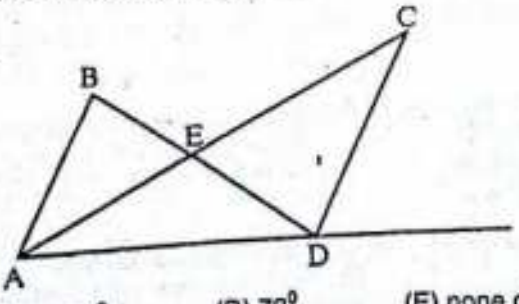
(A) 25 (B) 30 (C) 45 (D) 55 (E) none of these

28. Find the area of ABCD in square units.



(A) 2 (B) 3.5 (C)4 (D) 6 (E) none of these

29. In the diagram, AB is parallel to DC. If AE = ED, $\angle EAB = 34°$ and $\angle EAD = 42°$, then $\angle CDE = ?$



(A) 55° (B) 60° (C) 64° (D) 72° (E) none of these

30. $0.004 \times 0.12 \times .01^2 \times 10 = ?$

(A) .000048 (B) .0048 (C) .000048 (D) .0000048 (E) none of these

Section II: Analytical Ability [15 Questions, 15 marks]

Questions 1-5

In the Biswa Ijtema ground beside the Turag river there are exactly seven Police supervisors for the security of the congregation ---- Mokter, Faruk, San war, Bashir, Manik, Kalam, and Jahangir. These supervisors communicate with each other in two ways: through a wired circuit and by two-way radio. Messages can be sent in only direction along the wired circuit from Mokter to Faruk, from Faruk to Bashir, from Bashir to Kalam, from Kalam to Jahangir, and from Jahangir to Mokter.
Messages can be sent in either direction by two-way radion between Faruk and Sanwar, between Sanwar and Jahangir, and between Bashir and Manik.
No other routes of communication are available for sending messages among the seven supervisors. Messages that cannot be sent directly, to the intended supervisor are sent through one or more intermediaries, who pass the messages along a possible route. Any supervisor, but only a supervisor, can be an intermediary.

1. In which of the following pairs can a message be sent from the first to the second supervisor using exactly one intermediary?
   (A) Mokter to Kalam (B) Sanwar to Mokter (C) Bashir to Faruk
   (D) Manik to Sanwar (E) Jahangir to Manik

2. In which of the following pairs does sending a message from the first to the second supervisor require using both the wired circuit and the two-way radio?
   (A) Mokter to Kalam (B) Sanwar to Jahangir (C) Bashir to Sanwar
   (D) Manik to Bashir (E) Jahangir to Faruk

3. In which of the following pairs does sending a message from the first to the second supervisor require a minimum of two intermediaries?
   (A) Mokter to Manik (B) Faruk to Jahangir (C) Sanwar to Bashir
   (D) Bashir to Manik (E) Kalam to Sanwar

4. A message from Faruk to Mokter must be sent through
   (A) Sanwar (B) Bashir (C) Manik (D) Kalam (E) Jahangir

5. A message originating from which of the following supervisors requires the use of both the wired circuit and the two-way radio if the message is to reach more than one supervisor?
   (A) Mokter (B) Faruk (C) Bashir (D) Manik (E) Jahangir

Questions 6-8

Exactly seven people are present in the game room of a club. Three of those present - F, G and H - are senior club members, two - K and M - are junior club members, and two - P and R - are club applicants. They decide that two of those present will play card, two will play chess, and three will play billiard.
Each person present can play only one of the three games. There must be a senior club member playing each game. G cannot play the same game that R plays. H and P must play the same game. M cannot play billiard.

6. Which of the following is an acceptable grouping of people playing card, chess and billiard?
   (A) G & K, H & P, F & M & R (B) G & M, K & R, F & H & P
   (C) F & R, G & P, H & K & M (D) H & P, G & M, F & K & R
   (E) F & M, H & P, G & K & R

7. If K and R play the same game, which of following must be true?
   (A) H plays billiard (B) P plays chess (C) G plays card
   (D) F plays billiard (E) M plays card

8. Which of the following pairs CANNOT play the same game?
   (A) H andR (B) K and M (C) F and M (D) G and M (E) P and R

Questions 9-13

The manager of a stage program on the Rabindra Sharobar, Dhanmondin Lake, is going to feature six vocalists — M, N, P, Q, R and S on his half hour show during the course of one week. Each day, he will feature one vocalist from Monday through Saturday. The manager must schedule the vocalists for the show according to the following conditions:

M must be featured earlier in the week than R.

P must be featured on Tuesday.

Q must be featured on the day immediately before or immediately after the day on which N is featured.

9. If N is to be featured on Thursday, the earliest day on which R can be featured is
(A) Monday (B) Tuesday (C) Wednesday (D) Friday (E) Saturday

10. If S is to be featured on Friday, M must be featured on
(A) Monday (B) Tuesday (C) Wednesday (D) Thursday (E) Saturday

11. If Q is to be featured on Thursday, the latest day on which M can be featured is
(A) Monday (B) Tuesday (C) Wednesday (D) Friday (E) Saturday

12. Which of the followings vocalists can be featured on Monday?
(A) N (B) P (C) Q (D) R (E) S

13. If S is to be featured on Thursday, which of the following is true?
(A) M must be featured on Wednesday
(B) N must be featured on Saturday
(C) Q must be featured exactly two days after R is featured
(D) R must be featured on Wednesday
(E) R must be featured later in the week than S.

14. Mita is heavier than Qutee, but she is lighter than Rubel. Sara is heavier than Qulee and she is also heavier than Rubel. Una is heavier than Qutee and she is also heavier than Rubel. If the above statements are true, one can conclude with certainty that Tuhin in is heavier than Mita if one knows in addition that
(A) Sara weighs the same as Una weighs (B) Sara is heavier than Tuhin
(C) Tuhin in is heavier than Qutee (D) Tuhin is heavier than Una
(E) Una is heavier than Mita

15. To avoid anymore misgivings about the bidding process in the public mind the government would do well to involve representative from various stakeholders at the level of scrutinizing the bid offers by the participants. That apart, the tendering process has to be expedited if only to address the ever-increasing demand for energy in the country. Which of the following can be properly inferred from the statements above?
(A) The government has all the -mentions to remove misgivings about the bidding process in the public mind.
(B) It needs only to involve representatives from various stakeholders at the level of scrutinizing the bid offers to remove misgivings about the bidding process in the public mind.
(C) Tendering process has to be expedited to mitigate the ever-increasing demand for energy in the country.
(D) It needs both expedited and transparent tendering process to address the ever-increasing demand for energy in the country.
(E) An expedited tendering process will help government to avoid misgivings in the public mind about the bidding process in the energy sector.

Section III: Language

[30 questions, 30 marks]

Instruction: Identify the sentence that is correct.

01. (A) If members of a diverse team (diverse team- - এর লোকজন এক বা একাধিক দিক দিয়ে ভিন্ন হয়) are to perform successfully, they must develop trust and cooperation.
(B) If members of diverse team are to perform successfully, they must develop trust and cooperation.
(C) If diverse team is to perform successfully, it must develop trust and cooperation.
(D) If a diverse team are to perform successfully, they must develop trust and cooperation.
(E) If members of a diverse team are to perform successfully, they must develop trust and cooperativeness.

02. (A) The International Institute is offering-their cultural survey to companies without charge. They hope to receive some useful feedback.
(B) The International Institute is offering its cultural survey to companies without charge. They hope to receive some useful feedback.
(C) The International Institute is offering their cultural survey to companies without charge. They hope to receive some useful feedbacks.
(D) The International Institute is offering its cultural survey to companies without charge. It hopes to receive some useful feedbacks.
(E) The International Institute are offering their cultural survey to companies without charge. It hopes to receive some useful feedbacks.

03. (A) No one should ever feel that their heritages are unimportant.
(B) No one should ever feel that his or her heritage are unimportant.
(C).No one should ever feel that their heritage is unimportant.
(D) No one should ever feel that their heritage are unimportant.
(E) No one should ever feel that his or her heritage is unimportant.

04. (A) In spite of her handicap, she can complete the work faster than I.
(B) Despite her handicap, she can complete the work faster than me.
(C) Despite of her handicap, she can complete the works faster than me.
(D) In spite of her handicap, she can complete the work more faster than I.
(E) In spite of her handicap, she can complete the work faster than me.

05. (A) This is the person who I have seen reading my email.
(B) This is the person whom I saw reading my email.
(C) This is the person who I saw reading my email.
(D) This is the person that I see reading my email.
(E) This is the person that I saw reading my email.

06. (A) If any are defective, it should be returned to the manufacturer.
(B) It' any are defective, they should be returned to the manufacturer.
(C) If defective, it must return to manufacturer.
(D) If any are found to be defective, they should return to the manufacturer.
(E) If any are found to have been defective, it should return to the manufacturer.

07. (A) Your opinion may be different from someone else.
(B) Your opinion may be different than someone else's.
(C) Your opinion may be different from someone else's.
(D) Your opinion may be different-than someone else.
(E) Your opinion may be different to someone else.

08. (A) The reason that I don't like coffee is that it tastes bitter.
(B) The reason that I don't like coffee is because it taste bitter.
(C) The reason I don't like coffee is because it tastes bitter.
(D) The reason I don't like coffee is that it tastes bitter.
(E) None of the above.

Q9-Q10.

Instruction: Identify the sentence that is incorrect.

9. (A) Four times of the number of people were killed by hurricanes in 1991 as compared to this year.
(B) Jahangir left his apartment very dirty when he moved out of it.
(C) No one is ever here.
(D) My sister is about to get her driver's license.
(E) Twice the number of students that we expected registered on the last day.

10. (A) I completed the experiment to show the relation between nutrition and growth.
(B) The house across the street has been sold.
(C) The costs have gone beyond the estimate.
(D) A good watchdog barks loudly when strangers come on your property, which gives you a feeling of security.
(E) I bought several items at the bookstore: a notebook, two pens, and some typing paper.

Q11-Q15.

Instruction: Fill in the blanks with the most appropriate word.

11. He felt the surface _____ .
(A) tentatively
(B) delicately
(C) adroitly
(D) gingerly
(E) skillfully

12. This furniture becomes dark with _____.
(A) times (B) stage (C) age (D) period (E) phase

13. She is _____ after the operation.
(A) well (B) good (C) excellent (D) superb (E) superior

14. She feels _____ about the mistake.
(A) appalling (B) badly (C) shocked (D) horrific (E) bad

15. The salesclerk performed more _____ than the other trainees.
(A) nimbly (B) adeptly (C) capably (D) efficiently (E) powerfully

Q16 - Q20:

Instruction: Read the following passage and select the best answer for each question.

The year 2007 is about to end and the delta that is Bangladesh finds itself in a painful and familiar situation. The country is struggling to cope with the aftermath of a natural calamity - in this case the cyclone SIDR. The cyclonic winds tore across the southern coastline, killing several thousand people. It could have been worse. An effective cyclone warning system saved thousands of lives. Some 1.5m people had taken refuge in cyclone shelters when winds of 250km per hour and a 5-meter tidal surge hit the coastline after nightfall on November 15th. The economic fallout would also have been much more serious if the cyclone had hit one of the country's two main cities, Dhaka and Chittagong.

In 1970 at least 300,000 people perished in the country's deadliest cyclone which whipped up a wave that engulfed Chittagong. As before, the latest calamity will make managing Bangladesh's economy very challenging. To help the country recover, other nations and international development organizations are pouring aid into Bangladesh. Also, the Bangladeshis are a resilient people and over the years have learnt to deal more effectively with the consequences of natural calamities.

16. All of the following happened during the cyclone of 2007, except:
(A) Several thousand people were killed.
(B) A large number of people took shelter during the storm.
(C) The city of Chittagong was engulfed by a huge wave.
(D) Winds of high speed hit the coastline of Bangladesh.
(E) A cyclone-warning system saved a lot of lives.

17. The phrase 'in this case" in the second sentence implies:
(A) Bangladesh is hit by cyclones on a regular basis.
(B) Bangladesh is affected by many types of natural disasters on a regular basis.
(C) Cyclones tend to hit Bangladesh from different directions.
(D) In Bangladesh, natural disasters sometimes kill a few and sometimes a lot of people.
(E) The effect of November 2007 cyclone was not as bad as in other years.

18. Which of the following is/are implied about the economy, following the cyclone?
(A) The economic condition would have been worse it Dhaka had been directly hit by the cyclone.
(B) Foreign aid will help improve the economic condition affected by the cyclone.
(C) Managing the Bangladesh economy is made more difficult by disasters.
(D)Both B & C. (E) All of A, B & C.

19. Which of the following is <u>not</u> among the positive aspects regarding the preparation for and effects of the cyclone in 2007?
(A) There is a useful cyclone-warning system in Bangladesh?
(B) Cyclone shelters in Bangladesh can accommodate a lot of people.
(C) The geographical location of Bangladesh makes the country more vulnerable to natural disasters.
(D) The people of Bangladesh have become more skilled at dealing with disasters.
(E) All of these are positive aspects.

20. Which of the following is/are the difference/s between the cyclones in 2007 and 1970?
(A) There was a huge wave during the 1970 cyclone unlike the 2007 cyclone?
(B) The cyclones occurred in different centuries.
(C) Both the major cities were affected during the 1970 cyclone unlike the 2007 cyclone.
(D) The 1970 cyclone caused more damaged to human lives compared to the 2007 cyclone.
(E) Both B & D.

<u>Q21 - Q25.</u>

Instruction: Find the expression closest to the italicized word by choosing a word from the five choices.

21. Does an *evasive*answer _____?
(A) give the facts (B) fail to satisfy (C) arouse hope (D) hurt (E) confuse

22. Are *edible* (এডিবল- খাওয়ার উপযোগী) mushrooms _____?
(A) bitter (বিটার, - বিরক্তিকর বা তিক্ত) (B) poisonous (C) tasteless
(D) bland (ব্লান্ড - সুস্বাদু নয় এমন) (E) safe for eating

23. Is *ominous* (অমিনাস - অশুভ) news likely to be _____?
(A) reassuring (রিঅ্যাসিউরিং- আশ্বাসদায়ক) (B) frightening (C) slightly annoying
(D) disappointing (E) heartening (হার্টেনিং- উৎসাহজনক)

24. Is a vase in a *precarious* (প্রিক্যারিয়াস- এমনভাবে রাখা যে পড়ে যাওয়ার সম্ভাবনা) position likely to _____?
(A) fall (B) be admired (C) be criticized (D) censured (E) praised

25. Is a *brazen* (ব্রাজেন - নির্লজ্জ) person likely to _____?
(A) care what the neighbors think (B) enroll in a remedial course
(C) annoy others by his shameless boldness (D) make friends (E) apologize

Q26-Q30.

Instruction: In each of the following sentences look at the italicized word. Then find in the next lance a word (or words that means the same or almost the same as the italicized word.

26. But Humaira *signified* (সিগনিফাই- নিজের মতামত, ইচ্ছা জানানো) that she did want it.
(A) blurted out (ব্লার্ট আউট - হঠাৎ কোন কিছু বলে ফেলা)
(B) doubted (C) indicated
(D) said harshly (E) wrote

27. My mother paused, *perplexed* (পারপ্লেক্সড - হতবুদ্ধি)
(A) Angry (B) annoyed (C) aroused (অ্যারাউজড - জাগ্রত) (D) puzzled (পাজলড - হতবুদ্ধি) (E) unhappy

28. There was something in Mom's tone that made the child *apprehensive* (অ্যাপ্রিহেনসিভ - ভীত)
(A) enthusiastic (B) fearful (C) far away
(D) impatient (E) unwilling

29. Such conditions seem to be *ubiquitous* (ইউবিকুইটাস - সর্বত্র)
(A) everywhere (B) far and wide (C) happy (D) present (E) here

30. The speaker made a few *off -the cuff* (অফ--দি কাফ, - পূর্ব প্রস্তুতি ছাড়া) remarks.
(A) impulsive (ইমপালসিভ - হঠাৎ করে কিছু করা) (B) fervent (ফারভেন্ট - প্রচণ্ড অনুভূতি)
(C) crazy (ক্রেজি - অতি উৎসাহ বা বাতিকগ্রস্থ) (D) wild
(E) passionate (প্যাশনেইট- আবেগপ্রবণ)

Written communication [20 marks]

Instruction : Write your answer for each question in the designated space

A. Make one sentence with each pair of words: [10 marks]

parental supervision	
impressionable age	
value erosion	
moral teachings	
strict upbringing	

B. Write a paragraph on "An ordeal of the present price spiral in the country."[10 marks]

ANSWER KEY

Section 1: Mathematics

1.A	2.D	3.B	4.D	5.C	6.A	7.A	8.B	9.D	10.D
11.B	12.A	13.E	14.B	15.B	16.A	17.B	18.A	19.A	20.D
21.B	22.E	23.B	24.C	25.D	26.B	27.A	28.C	29.E	30.E

Section 2: Analytical Ability

1.B	2.C	3.A	4.E	5.D	6.D	7.D	8.B	9.C	10.A
11.D	12.E	13.D	14.D	15B.					

Section 3: Language and Communication

1.A	2.D	3.E	4.A	5.B	6.B	7.C	8.D	9.A	10.D
11.A	12.C	13.A	14.E	15.D	16.C	17.B	18.E	19.C	20.D
21.A	22.E	23.B	24.A	25.C	26.A	27.D	28.B	29.A	30.A

Solution of MBA Admission Test 2007 - 08

Mathematics

1. $x = n \times 2^5 \times 6^2 \times 7^3 = n \times 2^5 \times (2 \times 3)^2 \times 7^3 = n \times 2^5 \times 2^2 \times 3^2 \times 7^3$
x এর factor 5^2 & 3^2 এর মধ্যে 3^2 already আছে। কিন্তু 5 এর কোন multiple নেই।
∴n এর smallest possible value = $5^2 = 25$ অর্থাৎ, Answer A

2. এখানে, a + b = 5; যদি a = 1 & b = 4 হয় তাহলে, a × b = 4 (even) তাই (i) false.
আবার, a = 1 হলে b = 4 এবং a = 3 হলে; b = 2; অর্থাৎ, a odd হলে b even তাই (ii) true.
এখন, যদি a negative হয়, যেমন, a = −1 হলে b = 6 হতে হবে অর্থাৎ b positive হবে (a + b = 5) তাই (iii) true
∴ (ii) এবং (iii) true; অর্থাৎ Answer D.

3. এখানে, number দুটির difference হবে 4 (কেননা half the difference হচ্ছে 2), তাই একটি number x হলে, বড় number টি হবে x +4.
$x + 4 + 2x = 13 \Rightarrow 3x = 13 - 4 \Rightarrow 3x = 3 \Rightarrow x = 3$
∴ smaller number টি হচ্ছে 3; অর্থাৎ Answer B.

4. মনে করি, consecutive number দুটি x এবং x +1.
$x(x + 1) - x^2 = 12 \Rightarrow x^2 + x - x^2 = 12 \Rightarrow x = 12$ ∴greater number টি হচ্ছে 12 + 1 = 13; অর্থাৎ Answer D.

5. মনে করি, equal amount of water = 12 liter
First jar এর capacity = 4 × 12 = 48 liter & Second jar এর capacity = 3 × 12 = 36 liter
এখন, ছোট jar থেকে বড় jarএ পানি ঢালা হয়েছে। ∴ বড় jar এ পানির পরিমান দাঁড়াবে = 12 + 12 = 24 liter.

তাহলে fraction টি হবে = $\frac{\text{larger জারে পানির পরিমান}}{\text{larger জারের capacity}} = \frac{24}{48} = \frac{1}{2}$; অর্থাৎ Answer C,

6. 6 men কাজটি করে 5 days এ (8 hours per day)
∴6 men কাজটি করে (5 × 8) = 40 hours এ
1 men " " = 40 × 6 "
4 men " " = $\frac{40\times6}{4}$ " = 60 hours এ

60 hours কাজ করে 5 hours per day হিসেবে, ∴ সময় লাগবে = $\frac{60}{5} = 12 days$; অর্থাৎ Answer A.

7. এখানে, x = 2 হলে largest value 5 হয় A এবং B options এ। তবে, x = −2 হলে, A option এ value আসে = −6 −1 = − 7 এর absolute value = 7. অর্থাৎ, largest absolute value = 7 (option A তে); অর্থাৎ, Answer A.

8. $R^C \times R^D \times R^E = R^{-12} \Rightarrow R^{C+D+E} = R^{-12} \Rightarrow$ C + D + E = −12; এখানে, C, D, E তিনটিই different negative interger. D & E যদি maximum হয়, তাহলে C minimum হবে, D এবং E কে আমরা maximum ধরতে পারি −1 এবং −2.
C + D + E = −12 ⇒ C − 1 −2 = − 12 ⇒ C = −12 + 3 ⇒ C = −9 ; অর্থাৎ, Answer B

9. ধরি, DE = 2 ; AB = 2DE = 4; MN = $\frac{1}{2}EF = \frac{1}{2}$ DE = $\frac{1}{2}\times 2 = 1$

∴ΔABC এর area = $\frac{\sqrt{3}}{4}(4)^2 = 4\sqrt{3}$

Area of MNFE = ΔDEF এর area − Δ DMN এর area = $\frac{\sqrt{3}}{4}(2)^2 - \frac{\sqrt{3}}{4}(1)^2 = \frac{\sqrt{3}}{4}(4-1) = \frac{3\sqrt{3}}{4}$

Ratio = $\frac{Area\,of\ MNFE}{Area\,of\ \Delta ABC} = \frac{\frac{3\sqrt{3}}{4}}{4\sqrt{3}} = \frac{3\sqrt{3}}{4}\times\frac{1}{4\sqrt{3}} = \frac{3}{16}$; অর্থাৎ, Answer D.

10. ধরি, Mercedes এর price =100 ; Mercedes এর tax = 15

BMW এর price = 120 ; BMW এর tax = $120 \times 20\% = 120 \times \frac{20}{100} = 24$

$\frac{\text{BMW এর tax}}{\text{Mercedes এর tax}} \times 100\% = \frac{24}{15} \times 100\% = 160\%$; অর্থাৎ, Answer D.

11. মনে করি, father's age = F ; Sum of ages of three son = S এখন, F = S
এখন, 19 বছর পরে, father এর age = F + 19; & Sum of ages of 3 son = S + 19 × 3 = S + 57.

$\therefore \frac{1}{3}(F + 19) = \frac{1}{5}(S + 57) \Rightarrow 5F + 95 = 3S + 171 \Rightarrow 5F + 95 = 3F + 171 \Rightarrow F = 38$

অর্থাৎ, Answer B.

12. বৃত্তটির ব্যাসার্ধ = $\sqrt{7}$ ∴ব্যাস = $2\sqrt{7}$; BD এবং ব্যাসের দৈর্ঘ্য সমান, ∴ BD = $2\sqrt{7}$

$2AB = 3BD \Rightarrow 2AB = 3 \times 2\sqrt{7} \Rightarrow AB = 3\sqrt{7}$

∴Area = length × width = AB × BD = $3\sqrt{7} \times 2\sqrt{7} = 6 \times 7 = 42$

Area of the circle = $\pi(\sqrt{7})^2 = 7\pi$; Area of the shaded region = $42 - 7\pi$; অর্থাৎ, Answer A

13. 25% marks পেলে pass mark থেকে 30 কম হয়, আবার, 50% marks পেলে pass mark থেকে 30 বেশি হয়,
অর্থাৎ, (50-25)% =25% marks is equivalent to a score of 30 + 30 = 60.∴pass mark = 60 + 30 = 90;
অর্থাৎ, Answer E.
অথবা মনে করি, মোট mark x.

১ম ক্ষেত্রে, pass mark =25% of x + 30 = $\frac{x}{4} + 30$;

২য় ক্ষেত্রে pass mark =50% of x − 30= $\frac{x}{2} - 30$

এখন, $\frac{x}{2} - 30 = \frac{x}{4} + 30 \Rightarrow \frac{x}{2} - \frac{x}{4} = 60 \Rightarrow x = 240$ ∴ Pass mark = $\frac{240}{4} + 30 = 60 + 30 = 90$

অর্থাৎ, Answer E.

14. 8 liter solution এ salt = $8 \times 5\% = 8 \times \frac{5}{100} = 0.4$; 1 liter পানি evaporation এর পর solution = 7 liter

∴ percentage = $\frac{0.4}{7} \times 100\% = \frac{4}{70} \times 100\% = 5.7\%$; অর্থাৎ, Answer B

15. মনে করি, Amin এর কাছে marbel x টি এবং Babu এর কাছে marbel 2x টি
এখন, marbel exchange এর পর, $\frac{Amin}{Babu} = \frac{x+3}{2x-3+6} = \frac{x+3}{2x+3} = \frac{3}{5}$ ∴ $\frac{x+3}{2x+3} = \frac{3}{5} \Rightarrow 5x + 15 = 6x + 9$

∴x = 6 ∴ Enam এর কাছে marbel ছিল 5x = 5 × 6 = 30টি; অর্থাৎ, Answer B.

16. এই অঙ্কটি elimination method এ করলে সহজ হয়, Tk. 50,000 এর উপর 1 year এ 12% interest rate এ interest আসে 6000. এখন, Net profit = 6000 - 10% income tax − government levy= 6000 − (6000 × 10%) −120= 5,280 তাহলে, 1 year পর amount = 55,280 যা question এর সাথে match করে, অর্থাৎ, interest rate = 12%
∴ Answer A.

17. ABC || DEF; এবং BD ছেদক, ∴ ∠ABD = ∠BDE = 70^0 (alternate angle)
আবার, ∠BDG = 25^0; ∴ ∠GDE = $70^0 - 25^0 = 45^0$ আবার, DB = BE; ∴ ∠GED = 70^0
ΔDGE তে, ∠DGE = $180^0 - 45^0 - 70^0 = 65^0$ = ∠BGC (বিপ্রতীপ কোণ) ; অর্থাৎ, Answer B

18. elimination method এ সহজ হয়, option A তে normal speed = 20 mph.
তাহলে, 60 miles যেতে time লাগে = $\frac{\text{distance}}{\text{speed}} = \frac{60}{20} = 3$ hours
Speed যদি 20 mph থেকে 10 mph কমে অর্থাৎ 10 mph হয়, তাহলে, time লাগে = $\frac{60}{10} = 6$ hours
অর্থাৎ 3 hours বেশি লাগে, যা question এর সাথে match করে, ∴Answer A.
অথবা মনে করি,normal speed = x.
$\therefore \frac{60}{x-10} - \frac{60}{x} = 3 \Rightarrow \frac{60x - 60x + 600}{x(x-10)} = 3 \Rightarrow \frac{600}{x^2-10x} = 3 \Rightarrow \frac{200}{x^2-10x} = 1$ [dividing by 3]
$\Rightarrow x^2 - 10x - 200 = 0 \Rightarrow (x - 20)(x + 10) = 0 \therefore x = 20$ or, $x = -10$, কিন্তু $x = -10$ সম্ভব নয়,
$\therefore x = 20$; অর্থাৎ, Answer A

19. 42 days এ কাজটি complete করতে লাগে 55 men
1 " " " " " 55×42 "
33 " " " " " $\frac{55 \times 42}{33}$ men = 70 men
Additional men লাগবে 70 − 55 = 15 men ; অর্থাৎ, Answer A.

20. $\angle ACD + \angle CDB + \angle ABD + \angle CAB = 360^0$
$\Rightarrow \angle ACD + 2\angle ACD + 3\angle ACD + 2\angle CDB = 360^0$
$\Rightarrow \angle ACD + 2\angle ACD + 3\angle ACD + 4\angle ACD = 360^0$
$\Rightarrow 10\angle ACD = 360^0 \Rightarrow \angle ACD = 36^0 \therefore \angle ABD = 3 \times \angle ACD = 3\angle 36^0 = 108^0$
$\therefore \angle DBE = 180^0 - \angle ABD = 180^0 - 108^0 = 72^0$ অর্থাৎ, Answer D

21. $\frac{m}{n} = \frac{2}{3} \therefore 2n = 3m$ এখন, $\frac{3m+5n}{6m-n} = \frac{3m+5n}{2(3m)-n} = \frac{2n+5n}{4n-n} = \frac{7n}{3n} = \frac{7}{3}$; অর্থাৎ, Answer B

22. y % of $x = \frac{yx}{100}$; এখন, $\frac{yx}{100} = 29 \Rightarrow x = \frac{2900}{y}$; যা কোন option এ নেই। অর্থাৎ, Answer E

23. x এর কাজ করতে y অপেক্ষা 60% সময় বেশি লাগে, তাহলে, মনে করি, y এর কাজটি করতে লাগে p দিন,
$\therefore p + \frac{60p}{100} = 12 \Rightarrow \frac{160p}{100} = 12 \Rightarrow p = \frac{1200}{160} \Rightarrow p = 7.5$ days; অর্থাৎ, Answer B

24. 10% loss এ, 100 টাকায় কিনলে sell করে 90 টাকায়, 20% কম price এ80 টাকায় কিনে 40% profit এsell করলে,
S.P. = $80 + 80 \times \frac{40}{100} = 80 + 32 = 112$ টাকা
22 Tk. change at selling price represents C.P. = 55 Tk.
∴cost price = $\frac{55 \times 100}{22}$ = Tk. 250; অর্থাৎ, Answer C.

25. যখন completely filled up তখন box এর weight = 100; শুধু empty metal box এর weight = 10; varnish এর weight = 100 − 10 = 90 এখন, partly filled box এর weight = $\frac{1}{2}$ (100) = 50
এর মধ্যে, varnish এর weight =50−10=40; (box এর weight বাদ দিয়ে).∴Fraction = $\frac{40}{90} = \frac{4}{9}$
অর্থাৎ, Answer D

26. $\frac{1}{3^3} + \frac{1}{3^3} + \frac{2}{3^3} = \frac{3+1+2}{3^3} = \frac{6}{3^3}$ $\frac{2 \times 3}{3^3} = \frac{2}{3^2}$; অর্থাৎ, Answer B

27. ধরে করি, Y কাজটি করে x দিনে; ∴Y 1 দিনে করে $\frac{1}{x}$ কাজ; এখন, X & Y together 1 দিনে করে $\frac{1}{10}$ কাজ

∴X 1 দিনে করে $\left(\frac{1}{10}-\frac{1}{x}\right)$ কাজ = $\frac{x-10}{10x}$ কাজ

আবার, Y 1 দিনে করে $\frac{1}{x}$ কাজ ; Z 1 দিনে করে $\frac{1}{50}$ কাজ

∴Y & Z together 1 দিনে করে $\frac{1}{x}+\frac{1}{50}$ কাজ = $\frac{50+x}{50x}$ কাজ

এখন, x এর কাজটি করতে আর y ও z এর এক সাথে কাজটি করতে একই সময় লাগে,

∴ $\frac{x-10}{10x}=\frac{50+x}{50x} \Rightarrow x = 25$; অর্থাৎ, Answer A.

28. ΔAOD area = $\frac{1}{2}\times base\times height=\frac{1}{2}\times 4\times 3=6$; Δ BOC এর area = $\frac{1}{2}\times 2\times 2=2$

∴ABCD এর area = 6 – 2 = 4; অর্থাৎ, Answer C.

29. ∠BAD = $34^0+42^0=76^0$

Again, AB || DC, So ∠CDA = $180^0-76^0=104^0$

এখন, AE = ED ∴ ∠ADE = ∠EAD = 42^0

∠CDE = $104^0-42^0=62^0$ যা option এ নেই। অর্থাৎ, Answer E

30. 0.004×0.12×0.01×0.01×10 = 0.004×0.12×0.01×0.1= 0.00000048 যা option এ নেই। অর্থাৎ, Answer E

Analytical Ability

1st puzzle (Question - 1 -5)

One way circuit: Mk → F → B → K → J → Mk

Two way radio: F ↔ S ; S ↔ J ; B ↔ Mn name গুলোর initial.

1. S থেকে Mk এর কাছে information পাঠানোর ক্ষেত্রে S ↔ J → Mk. J হচ্ছে একমাত্র intermediary; অর্থাৎ, Answer B
2. (A) Mk → F → B → K (one way); (B) S ↔ J (two way)
   (C) B → K → J ↔ S ; (B থেকে J পর্যন্ত one way and J থেকে S পর্যন্ত two way)
   (D) B ↔ Mn ; (two way) ; (E) J ↔ S ↔ F ; (two way); অর্থাৎ, Answer C,
3. Mk → F → B ↔ Mn; minimum two intermediaries; অর্থাৎ, Answer A
4. Mokter এর কাছে অবশ্যই Jahangir এর মাধ্যমে message পাঠাতে হবে। কারণ: J → Mk. অর্থাৎ, Answer E.
5. এখানে, Manik one way circuit এ নেই।
   তাই তাকে কোন message পাঠাতে গেলে প্রথমে two way radio ব্যবহার করে B এর কাছে এবং তারপর one way circuit ব্যবহার করে B থেকে যথাযথ ব্যক্তির কাছে পাঠাতে হবে। অর্থাৎ, Answer D

2nd Puzzle:

6. A and C option বাদ, কারন, M cannot play billiard. B option বাদ ; কারন, chess (K & R)
   এ কোন senior player নেই ; Option E বাদ, কারন G cannot play R (billiard). অর্থাৎ, Answer: D
7. যেহেতু প্রত্যেক game এ senior থাকতে হবে, আর K & R (দুই জনই non – senior) একই game খেলে সেক্ষেত্রে game হবেbilliard . Third player হবে senior কেউ, এখন, G -হবেনা ; G cannot play with R. H – হবেনা ; কারন, H must play with P. তাই, F -একমাত্র option. অর্থাৎ, Answer D
8. M cannot play billiard তাই M কে two player game chess বা card খেলতে হবে। সেক্ষেত্রে M এর সাথে অবশ্যই senior কেউ থাকবে। K এর সাথে M খেলতে পারবে না কারন K junior এবং প্রত্যেক খেলায় একজন senior থাকতে হবে। অর্থাৎ, Answer B.

3rd Puzzle: (9 - 13)

	Mon	Tue	Wed	Tues	Fri	Sat
9.	M	P	R	N	Q	

P ও N এর place দেওয়া আছে, Q বসবে N এর পর।
R তাহলে earliest Wednesday তে আসতে পারবে। কেননা M তাহলে R এর আগে Monday তে perform করতে পারবে।
Answer: C.

	Mon	Tue	Wed	Tues	Fri	Sat
10.	M	P	N Q	Q N	S	R

P ও S দেওয়া আছে, তাহলে, Wednesday & Tuesday তে Q & N বা N & Q হবে, sat তে R বসবে। এবং Monday তে M বসবে।
Answer: A

	Mon	Tue	Wed	Tues	Fri	Sat
11.		P		Q	M	R

M কে latest place করা যাবে Friday তে। কারণ, R কে Saturday তে অর্থাৎ M এর পর দিতে হবে।
Answer : D

	Mon	Tue	Wed	Tues	Fri	Sat
12.		P				

N বা Q পারবে না। কারণ তাদেরকে পরপর দুই দিন থাকতে হবে। P হবে না, কারণ P আসবে Tuesday তে। R হবে না, কারণ R আসতে হবে M এর পর। Monday তে হবে S.
Answer E.

	Mon	Tue	Wed	Tues	Fri	Sat
13.		P	S	S	N Q	Q N

এক্ষেত্রে Fri ও Sat তে N,Q বা Q,N বসবে। আবার M যেহেতু R এর আগে, তাই Monday তে M ও Wednesday তে R বসবে। ∴ Answer : D

14. Q < M < R ; Q < S & R < S ; Q < U & R < U এখানে, Answer D কারণ, Tuhin যদি Una থেকে heavier হবে, তাহলে Tuhin অবশ্যই R থেকেও heavier অর্থাৎ M থেকেও heavier.

15. A বাদ, কারণ, misgivings remove এর ব্যাপারে govt. এর all intention এর কথা clear নয়। C, D, E বাদ কেননা tendering process এর কথা যথোপযুক্ত ভাবে option গুলোতে ব্যবহার করা যায় না। কারণ passage-এ এই ব্যাপার গুলো clear নয়। ∴ Correct Answer B

Language

1. Option B তে diverse team এর আগে a নেই। তাই বাদ।
Option C ও একই কারণে বাদ।
Option D তে, verb are use করা হয়েছে, তাই বাদ।
Option E তে, শব্দটির কারনে বাদ।
Option A টাই একমাত্র সঠিক Answer.

2. Option A এবং C বাদ। কেননা The International Institute এর পর pronoun they ভুল ব্যবহার করা হয়েছে।
Option B তে, second sentence-এ subject pronoun হিসেবে they ব্যবহার করা হয়েছে যা একটি institute এর বেলায় প্রযোজ্য নয় তাই বাদ।
Option E তে, verb are ব্যবহার হয়েছে, তাই বাদ।
Option D টিই correct Answer.

3. Option A, C and D বাদ, কারন no one কে their দিয়ে refer করা হয়েছে। এটি pronoun এর ভুল ব্যবহার। option B তে, heritage singular শব্দের সাথে are ব্যবহৃত হয়েছে, তাই বাদ। option E টিই correct Answer.

4. Option B ও E বাদ, কেননা than এর পর এখানে me এর ব্যবহার ভুল।
Option C বাদ, কেননা Despite এর পর of বসে না।
Option D বাদ,কেননা faster এর আগে more বসে না।
∴correct Answer A.

5. Option A এবং C বাদ, কারণ এখানে the person এর পর who এর ব্যবহার যথাযথ নয়।
Option D এবং E বাদ, কারণ এখানে the person এর পর that এর ব্যবহার যথাযথ নয়।
∴ Correct Answer B.

6. Option A ও E বাদ, কারণ এখানে any are দ্বারা plural বোঝানো হয়েছে কিন্তু ভুলবশত it ব্যবহার করা হয়েছে। Option C বাদ, এখানে it must return হবে না। it must be returned হওয়া উচিত। (passive voice)
Option D বাদ, এখানে they should return হবে না। they should be returned হতে হবে। (passive voice)
∴ Correct Answer B.

7. Different এর পর from বসে than বা to হবে না, তাই, option B, D এবং E বাদ।
option A তে opinion এর সাথে someone else কে compare করা হয়েছে। এখানে illogical comparison এর কারণে ভুল হয়েছে।
∴ Correct Answer C

8. Option B এবং C বাদ, কারণ The reason .....is because .....এ ধরনের ব্যবহার গ্রহণযোগ্য নয়।
option A বাদ, কারণ, The reason that .....that .....এক্ষেত্রে that এর একাধিক ব্যবহার ভুল।
∴ Correct Answer D.

9. Option A তে four times এর পর of এর ব্যবহার ভুল। তাই, Answer A.

10. Option D তে which এর আগে property থাকায়, pronoun টি property তে refer করছে। কিন্তু তা সম্পূর্ণ ভুল অর্থ দেয়। এখানে, which দ্বারা কুকুরের bark করাকে mean করা হয়েছে।
অর্থাৎ, Answer D.

11. এখানে, appropriate meaning দিচ্ছে option A.

12. এই sentence টির অর্থ,
বয়স বাড়ার সাথে সাথে furniture টি অনুজ্জ্বল হয়ে যায়। with age হচ্ছে proper expression.
তাই, Answer C.

13. Correct Answer A. কারণ, operation এ তার physical condition বোঝাতে well ব্যবহার করতে হবে।

14. সে ভুল করার পর কেমন feel করছে তা বোঝাতে bad এর ব্যবহার যথার্থ। অর্থাৎ, Correct Answer E.

15. Correct Answer D. কারণ, performance measure করার ক্ষেত্রে efficiently ই বেশি appropriate.

Comprehension (16 - 20)

16. Option A → line 3; Option B → line 5
Option C → line 7,8 (বলা আছে Dhaka ও Chittagong affected হয়নি)
Option D → line 6; Option E → line 4; অর্থাৎ, Answer C.

17. এখানে, natural calamity এর পর in this case বলতে বোঝানো হয়েছে যে Bangladesh এ বিভিন্ন সময় বিভিন্ন ধরনের দুর্যোগ হয়। এ ক্ষেত্রে SIDR এর উদাহরণ দেওয়া হয়েছে। অর্থাৎ, Correct Answer B.

18. A (line 7,8) ; B (line 11,12); C (line 10,11) ∴সবগুলোই passage হতে imply করা যায়। ∴ Answer E.

19. বাংলাদেশ ভৌগোলিকভাবে দুর্যোগপ্রবণ অঞ্চলে অবস্থিত, এটা একটা negative aspect কিন্তু অন্য option গুলো positive দিক নির্দেশ করে। ∴Correct Answer C.

20. Answer D; (line 3 এবং 9 এ দুই cyclone এর difference দেওয়া আছে।
21. Answer A ; কারণ, evasive answer থেকে proper information পাওয়া যায় না।
22. Answer E ; কারণ edible অর্থ খাওয়ার উপযোগী।
23. Answer B ; কারণ, ominous বা অশুভ news ভীতিকর হওয়ার ব্যাপারে কথা বলা হয়েছে।
24. Answer A. কারণ, precarious ভাবে vase টি পড়ে যাওয়ার সম্ভাবনার কথা বলা হয়েছে।
25. Answer C. কারন, brazen দিয়ে নির্লজ্জ ব্যক্তিকে refer করা হয়েছে।

Synonym find out করতে হবে(26 - 30)

26. Answer A
27. Answer D
28. Answer B
29. Answer A
30. Answer A

MBA (IBA)

Admission Test Question (2008-2009) with Solution

Section I : Mathematics [30 questions, 30 marks]

Instruction: Solve the following problems and mark the correct answers on your Answer Sheet. Geometric figures are not drawn to scale.

1. A man buys eggs at the rate of Tk. 35 per 100 pieces and sells them at Tk. 7.20 per dozen. If the profit is Tk. 30, how many eggs did he buy?
   (A) 60 (B) 120 (C) 180 (D) 210 (E) none of these

2. $(1/4)^3 + (3/4)^3 + 3(1/4)(3/4)(1/4 + 3/4) = ?$
   (A) 1/64 (B) 27/64 (C) 49/64 (D) 1 (E) none of these

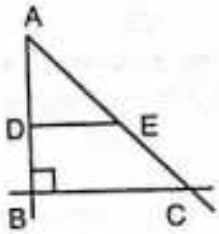
3. The present ages of A and B are in the ratio of 6:4. Five years ago their ages were in the ratio of 5:3. How old is A now?
   (A) 42 (B) 36 (C) 30 (D) 24 (E) none of these

4. X alone can do a piece of work in 15 days and Y alone can do it in 10 days. X and Y undertook the work and with the help of Z they finished it in 5 days. How many days will it take Z to finish the work alone?
   (A) 30 (B) 25 (C) 20 (D) 15 (E) none of these

5. If x is 30% greater than y, what percent of y is x?
   (A) 70 (B) 77 (C) 120 (D) 130 (E) none of these

6. If $2x + y = 4$, and $2x - y = 8$, then $3x - y = ?$
   (A) 5 (B) 7 (C) 9 (D) 11 (E) none of these

7. In the triangle ABC, $\angle ABC = 90°$ and DE is parallel to BC. AD = DB = 3 cm, DE = 4 cm; what is the area of BCED in sq. cm.?
   (A) 18 (B) 24 (C) 27.5
   (D) 32 (E) none of these



8. If Anwar gets 2 taka from Bobby, they will have the same amount of money. If Bobby gets 2 taka from Anwar, she will have thrice as much money as Anwar. How much money did Bobby have?
   (A) 6 (B) 8 (C) 10 (D) 12 (E) none of these

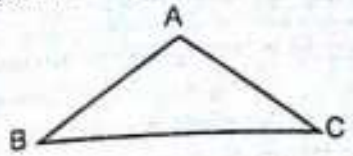
9. If x and y are positive odd integers and z is an even integer, which one of the following statements cannot be true?
   (A) $(x - z)y^2$ is odd (B) $(x - z)^2y$ is even
   (C) $(x - z)y$ is odd (D) $(x - y)^2z$ is even
   (E) none of these

10. In a class of 400 students, 72 received A's. If 15% of the male students and 20% of the female students received 'A', then the number of male students in the class is
    (A) 160 (B) 175 (C) 180 (D) 300 (E) none of these

11. If $2^x = (16^2 \times 8^3 \times 4^4)/2^{20}$, then $x = ?$
    (A) 4 (B) 5 (C) 6 (D) 7 (E) none of these

12. Faruk has x more marbles than Sanwar has, and together they have a total of y marbles. Which of the following represents the number of marbles that Sanwar has?
    (A) $\frac{y-x}{2}$ (B) $y - \frac{x}{2}$ (C) $\frac{y}{2} - x$ (D) $2y - x$ (E) $y - 2x$

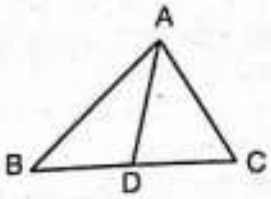
13. In the figure AB = AC = 4 cm and ∠BAC = 120°. Find the area of the triangle.



(A) $8\sqrt{12}$ (B) $4\sqrt{12}$ (C) $4\sqrt{3}$
(D) 16 (E) none of these

14. If $2x + y = 2$ and $x + 3y > 6$, then
(A) $y \geq 2$ (B) $y < 2$ (C) $y > 2$ (D) $y \leq 2$ (E) $y = 2$

15. In the figure, AD is the bisector of ∠BAC. If AB = 8 cm, BD = 5 cm and DC = 4 cm, what is the length of AC in cm?



(A) 6 (B) 7.2 (C) 10
(D) 12 (E) none of these

16. How many liters of water should be added to a 30 liter mixture of milk and water containing milk and water in the ratio of 7 : 3 such that the resultant mixture has 40% water in it?
(A) 7 (B) 10 (C) 5 (D) 12 (E) None of these

17. If $b < 2$, and $2x - 3b = 0$, which of the following must be true?
(A) $x > -3$ (B) $x < 2$ (C) $x = 3$ (D) $x < 3$ (E) $x > 3$

18. If $b = 8d - c$, and $a = d/3$, what is the average (arithmetic mean) of a, b, c, and d ?
(A) 4a (B) 7a (C) a/7 (D) 4a + 7 (E) none of these

19. If $x/y > 0$, which of the following must be true?
(A) $x > 0$ (B) $y > 0$ (C) $xy > 0$ (D) $x - y > 0$ (E) all of these

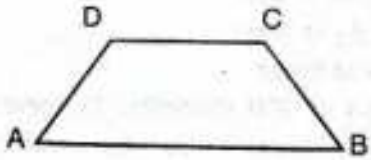
20. A rope is cut into 3 pieces with each piece twice as long as the previous one. If the length of the longest piece is 3 meter, what was the length of the rope in meter?
(A) 6.5 (B) 6 (C) 5.5 (D) 5.25 (E) none of these

21. $10^2 + 10^5 + 10^4 = ?$
(A) 10^{11} (B) $10^2 \times 1101$ (C) $10^2 \times 10^5$ (D) 11100 (E) none of these

22. A group of workers can do a piece of work in 24 days. However, as 7 of them were absent, it took them 30 days to complete the work. How many people actually worked on the job to complete it?
(A) 35 (B) 30 (C) 28 (D) 42 (E) none of these

23. If $3^x = y$, then what is $3^{(4-x)}$
(A) 64/y (B) 27/y (C) 9y (D) 81/y (E) none of these

24. The parallel sides of a trapezium are 10 cm and 20 cm respectively. AD = 6 cm and CB = 8 cm. Find the area of the trapezium.
(A) 120 (B) 96 (C) 72
(D) 48 (E) none of these



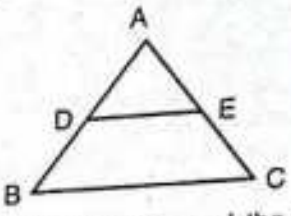
25. Find the range of real values of x satisfying the inequalities $3x - 2 > 7$ and $4x - 13 > 15$.
(A) $7 > x > 3$ (B) $-3 > x > -7$ (C) $x > 7$ (D) $x > 3$ (E) none of these

26. A merchant buys two articles for Taka 1400. He sells one of them at a profit of 20% and the other at a loss of 8%. He makes no profit or loss in the end. What is the selling price of the article that he sold at a loss?
(A) 1000 (B) 1200 C) 800 (D) 900 (E) none of these

27. If $(0.0016 \times 10^x)/(0.04 \times 10^y) = 4 \times 10^4$, then $x - y = ?$
(A) 5 (B) 6 (C) 7 (D) 8 (E) 9

28. In the figure DE is parallel to BC. If DE = 4 cm, and BC = 8 cm, and triangle ADE = 25 sq. cm. Find the area of ABC in sq. cm.

(A) 100 (B) 50 (C) 200
(D) 136 (E) none of these



29. A train covers a distance of 80 km at a speed of 40km/hr for the first 60 km and the remaining distance at a speed of 20 km/hr. What is the average speed (in km/hr) of the train on the Journey?

(A) 24 (B) 25 (C) 30 (D) 32 (E) none of these

30. If $(x + 4)^2 = 9$ and $(y + 3)^2 = 25$, then the minimum value of y/x is

(A) –1 (B) –2 (C) –8 (D) – 2/7 (E) none of these

Section II: Analytical Ability [15 Questions, 15 marks]

Q1–5

IBA is to select a panel of judges for a quiz contest from a pool of ex-IBA students. The pool consists of the following: three BBA graduates – A, B, and C; three MBA graduates – P, Q, and R; and three EMBA graduates – X,Y, and Z. Each panel must be formed according to the following conditions:

- A panel can have three, four, five, or six members.
- At least one member of each panel must be an EMBA graduate.
- Neither BBA nor MBA graduates can make up more than half the number of members on a panel.
- X cannot be on a panel with B, with C, or with Z.
- R cannot be on a panel with B or with Y.

1. How many different, acceptable five-member panels can be formed if both X and R must be selected as members?

(A) A (B) B (C) P (D) Q (E) Z

2. If R and X are both selected as members of a four-member panel, which of the following must also be selected as a member of that panel?

(A) 0 (B) 1 (C) 2 (D) 3 (E) 4

3. Which of the following is a properly constituted panel?

(A) A, B, P, R (B) B, C, P, Q (C) C, P, X, Y (D) P, Q, R, Z (E) P, Q, X, Y

4. If A, C, Q, and R are all selected as members of a five-member panel, which of the following must be selected as the fifth member of that panel?

(A) B (B) P (C) X (D) Y (E) Z

5. If both X and Y are to be members of a three-member panel, then which of the following can be the third member of that panel?

(A) B (B) C (C) P (D) R (E) Z

Q6-11

Singer Plus sells two brands of TV – Singer and Samsung. The TV repair department employs six employees – J, K L, M, N and 0 . Samsung TVs are first given to J or K. Singer TVs are given first to any one of the following: J, M, or L. If a TV cannot be repaired by the person to whom it is given, it must be forwarded until it reaches someone who can repair it. The TV whose problem cannot be resolved must be forwarded as follows:

- By J to L if it is Samsung, but to M if it is Singer
- By K to either J or L
- By L to M if it's a Samsung, but to N if it is a Singer
- By M to either L or N irrespective of TV brand
- By N to O irrespective of TV brand
- O can repair any TV given to him

6. Any TV that reaches 0 must have- been previously given to
(A) J (B) K (C) L (D) M (E) N

7. Any of the following can be true EXCEPT:
(A) J forwards a Samsung to L (B) K forwards a Samsung to J
(C) K forwards a Samsung to L (D) L forwards a Samsung to N
(E) M forwards a Samsung to L

8. Which of the following could be given to each of the six members of the TV repair department in turn?
(A) A Samsung that is first given to K (B) A Samsung that is first given to J
(C) A Singer that is first given to J (D) A Singer that is first given to L
(E) A Singer that is first given to M

9. A Singer TV could reach O via which of the following sequences of people?
(A) J to K to N (B) J to L to M (C) J to M to N (D) L to K to M (E) L to J to M to N

10. If a member of the repair department is given a TV that he or she had previously given to some other member of the department, the person who is given the TV a second time could be:
(A) J (B) K (C) M (D) N (E) O

11. Any TV that reaches O must have been given to a minimum of how many members of repair department before reaching O?
(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

Q12 –13

Spokespersons for various brands of toothpaste, soap, etc. consumer goods, themselves do not regularly use the brands that they endorse. This may not only harm the marketing efforts of the company that owns the brands, it also indicates that the products are of inferior quality.

12. On which of the following inferences does the author of the passage base his conclusion that the products are of inferior quality?
(A) Spokespersons endorse only those brands that they use.
(B) Quality (neither price, nor variety) is the only determinant for spokespersons to choose a particular brand.
(C) If customers get to know that spokespersons do not use the brands they endorse, then they might shift to other brands.
(D) Spokespersons endorse only those brands that are of superior quality.
(E) None of the above.

13. Which of the following, if true, would most support the conclusion drawn by the author that the brand marketing efforts might suffer?
(A) Consumers identify as insincere those spokespersons who endorse goods they do not regularly use and look unfavorably upon companies that use them to endorse their brands.
(B) Brands that are regularly used by spokespersons who endorse them do not exhibit more sales compared to brands whose spokespersons do not regularly use them.
(C) Buyers of consumer goods base their choice of product more on price than spokesperson endorsement.
(D) Spokespersons endorse only those brands that are of superior quality.
(E) None of the above.

Q14-15
Speakers at a recently seminar held commented that studies have found that the use of insecticide-treated mosquito nets can significantly reduce the incidence of malaria and reduce number of deaths caused by malaria. Therefore, everyone should buy and use these nets, which will help save lives.

14. The passage bases its conclusion on the assumption that:
(A) the use of mosquito nets can reduce the number of deaths caused by malaria.
(B) everyone can afford the insecticide-treated mosquito nets.
(C) mosquitoes are responsible for spreading malaria.
(D) speakers made their comments on the bases of study findings.
(E) None of the above.

15. Which of the following statements, if true, would most weaken (or undermine) the conclusion drawn in the passage?
(A) The majority of studies have found conclusive evidence that insecticide-treated nets can effectively kill insects that spread malaria.
(B) The insecticide-treated nets also kill insects that do not spread malaria.
(C) Some of the speakers at the seminar are not experts on medical diseases.
(D) The insecticide used to treat the nets is sometimes mortally harmful to humans.
(E) None of the above.

Section III: Language [30uestions, 30 marks]

Q1-3
Instruction: Identify the **correct** sentence from the alternatives.

1. (A) Tomato and cheese at pizza are tasting delicious.
(B) Tomato and cheese on pizza tastes delicious.
(C) Tomato and cheese on pizza taste delicious.
(D) Tomato and cheese at pizza tastes delicious.
(E) Tomato and cheese on pizzas tastes delicious.

2. (A) The snake was slimy than the frog.
(B) The snake was more slimy than the frog.
(C) The snake was more slimier than the frog.
(D) The snake was slimier.
(E) The snake was as slimiest as the frog.

3. (A) The members know they must cooperate together.
(B) The members know they must be cooperated together.
(C) The members know they must cooperative.
(D) The members know it that it must cooperate together.
(E) The members know that they is to cooperate.

Q4-7
Instruction: Identify the **incorrect** sentence from the alternatives.

4. (A) We were happy to see you again.
(B) It will take but a few minutes.
(C) We use none of their products.
(D) Your answers are all right.
(E) Our questions are important but your answers from them are more important

5. (A) The report is sitting on your desk.
(B) Typists usually sit in special chairs.
(C) Rise the microphone another two inches.
(D) Interest rates have risen 2 points since May.
(E) The masons are laying bricks today.

6. (A) Manufacturer can motivate their employees by appealing to the different levels of personal needs.
   (B) When business began picking up, we hired three additional employees and transferred two others.
   (C) If losses continue, management has the option of declaring bankrupt.
   (D) Please notify us upon its completion.
   (E) The order was processed the first thing this morning.

7. (A) We liked the first car we saw as well, if not better than any of the others.
   (B) It is I who leave late everyday.
   (C) We need someone with good academic credentials and a keen interest in marketing.
   (D) We need to gather everything we need.
   (E) The rent has not been increased, nor is it likely to be.

Q8-15

Instructions: Fill in the blanks with the appropriate word(s).

8. The managers decided to cut costs thus _____ on the projects.
   (A) economizing (B) splurging(C) perpetuating (D) expediting(E) managing

9. All questions must be original, that is, formulated _____ for the test.
   (A) really (B) exclusively(C) certainly(D) equally(E) commonly

10. Due to the _____ qualities of the herb, it is _____ by people in the medical profession.
   (A) combined, acerbic (B) beneficial, prized
   (C) possessed, harmful (D) ignored, medicinal
   (E) confused, apparent

11. Their mutual teasing seemed _____ , but in fact it _____ a long-standing hostility.
   (A) aimless, produced (B) friendly, masked
   (C) playful, contravened (D) bitter, revealed
   (E) clever, averted

12. In spite of the challenges she faced, the young executive _____ and eventually_____.
   (A) capitulated, lost (B) faltered, succeeded
   (C) triumphed, failed (D) dithered, overcame
   (E) persevered, prospered

13. As long as nations cannot themselves accumulate enough physical power to dominate all others, they must depend on _____ .
   (A) allies (B) resources(C) freedom (D) education (E) self-determination

14. For centuries animals have been used as____ ____ for people in experiments to assess the effects o-therapeutic and other agents that might later be used in humans.
   (A) benefactors (B) companions (C) examples (D) precedents(E) surrogates

15. The natural balance between prey and predator has been increasingly_____, most frequently by human intervention.
   (A) celebrated (B) predicted(C) observed (D) disturbed (E) questioned

Q16-20

Instruction: Identify the sentence(s) that is/are showing the correct use of the underlined word.

16. (i) The new entrant was <u>perplexed,</u> the first day he joined his new job.
   (ii) The level of difficulty of the math problem even left the class genius <u>perplexed.</u>
   (iii) <u>Perplexity</u> may be the result of inadequate communication.
   (A) i only (B) both i and ii (C) both ii and iii (D) both i and iii (E) all three

17. (i) I would advise you to assert yourself when dealing with that arrogant man.
(ii) Some people find assertiveness a quality verging on arrogance.
(iii) Assertion is a rare virtue.
(A) i only (B) ii only (C) iii only (D) both i and ii (E) both i and iii

18. (i) His eloquencespeech earned him a round of applause.
(ii) All of those who were present were left in no doubt on the point expressed so eloquently.
(iii) The chosen orator, demonstrating the height of eloquence, has only confirmed the panel of their good judgment.
(A) i only (B) ii only (C) iii only (D) both i and ii (E) both ii and iii

19. (i) His apparent apathy toward the welfare of his orgahization has scared off investors.
(ii) The miserable event left her with a feeling of apathy toward everything else.
(iii) An apathetic attempt was made to save the day.
(A) i only (B) both i and ii (C) both ii and iii (D) both i and iii (E) all three

20. (i) It is better to leave her alone now; it will only aggravate her grief.
(ii) She remained serene in the face of extreme aggravation.
(iii) The condition of the patient is aggravating day by day.
(A) i only (B) ii only (C) iii only (D) both i and ii (E) all three

Q21 – 25

Instruction: Identify the wrong word/s, if any, from the sentences. Otherwise, indicate "No Error".

21. Competence without willingness yields in a half-hearted result. No Error
(A) (B) (C) (D) (E)

22. I have repeated the information again for his perusal.No Error
(A) (B) (C) (D) (E)

23. The caustic remarks she made was totally uncalled for. No Error
(A) (B) (C) (D) (E)

24. The Financial Times is a more widely read paper than The Observer. No Error
(A) (B) (C) (D) (E)

25. The list containing names of miscreants have been submitted to the committee for action. No Error
(A) (B) (C) (D) (E)

Q26 – 30

Instruction: Read the following passage and select the best answer for- each question.

As businesses became more competitive and markets grew more complex, quantitative analysis was perceived by some academics & practitioners to be more important for business decision-making. This was further reinforced by the proliferation of computers and decision analysis software – which are handy tools for the business decision-maker. Earlier, what used to be the domain of Production and Finance departments, became the common ground for Marketing, Sales & Distribution and even Human Resource Management functions.

Inevitably, quantitative ability has become a requisite skill for business graduates. Business schools, appreciating the importance of quantitative skills, have introduced a number of courses to help develop quantitative skills in their students, apart from incorporating analytical tools in most courses.

However, some academics and professionals argue that although quantitative tools may help analyze situations from a new perspective, decision-making is and always has been based partly on acumen and partly on experience – both human attributes. These experts emphasize the importance of the manager's individual thought processes, rather than quantitative analysis, which assists human judgment but is not a substitute for it. In line with this perspective, some business schools have begun to revert from the trend

of more quantitative courses and content. These schools have started to offer more courses that focus; n what is identified as "soft skills" of managers – leadership, coordination, creativity and communication.

The industry is enjoying the fruits of such varied business education and recruiting from among a diverse group of graduates every year to fit an assortment of positions and responsibilities. Eventually, who will prosper is an issue that only time and proven performance will resolve.

26. The main objective of the article is to:
    (A) highlight the merits of quantitative analysis in business education.
    (B) criticize the development of soft skills training in business schools.
    (C) describe the types of jobs that industries offer to business school graduates.
    (D) offer a new approach to business education.
    (E) discuss two different teaching approaches in different business schools.

27. The business schools discussed in the 3rd paragraph compared to the schools discussed in the 2nd paragraph:
    (A) focus more on quantitative skills instead of leadership and communication skills.
    (B) subscribe to the opinion of experts who believe that decision-making is based more on human thought rather than quantitative analysis.
    (C) do not focus on quantitative skills as much.
    (D) Both A & C
    (E) Both B & C

28. The experts referred to in the 3rd paragraph:
    (A) use quantitative skills only in making financial or production decisions.
    (B) consider quantitative skills an aid to human judgment when making decisions.
    (C) have introduced a number of courses to help develop .
    (D) had their ideas reinforced by computers and decision software.
    (E) are the ones who believe that decision-making is a human attribute.

29. Which of the following cannot be inferred from the article?
    (A) The industry prefers soft skills over quantitative abilities in their recruits.
    (B) Different business schools focus on different skills to develop their students' decision-making ability.
    (C) Academics as well as professionals differ in their opinions regarding skills that aid decision-making.
    (D) The passage of time may help determine the value of quantitative skills compared to soft skills in terms of decision-making facility.
    (E) None of these can be inferred.

30. The article expresses all of the following, except which one/s?
    (A) According to some experts, the increasing complexity of businesses led to the development of quantitative skills education.
    (B) According to some experts, decision-making is an output of human qualities – which has not changed over the years.
    (C) Those experts who believe in decision-making being the output of human deliberation and experience, equally value quantitative analysis.
    (D) Technology can provide quantitative analysis tools that help in making business decisions.
    (E) Both B & C.

Written Communication [20 marks]

A: Missing Words [10 marks]

Instruction: In each line of the following paragraph, one word has been deliberately omitted. You must:

(a) **decide** which word is missing,
(b) **indicate** by a stroke (/) where it should go, and
(c) **write** the word in the space provided to the left of the corresponding line.

The first one has been provided for you.

a	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12

When / student studies in the medium of a foreign language, it sometimes to him that the problems are great to be solved. Instead of the student being in control of the language, the seems now to be control of the student. Seminars and tutorials may help the speaker to his problems. The non-native speaker is likely find that he is not skilful enough to questions to be able to gain real benefit these sessions. He should pay special attention to this area language learning so to ensure that he can join in discussions and clear up any he may have.

B: Essay Writing [10 marks]

An automobile manufacturer wants to set up a. car assembly plant in Bangladesh. Do you support it or not? Give your reasons. (Use the space in the next page to answer this question.)

ANSWER KEY

Section 1: Mathematics

1.B	2.D.	3.C	4.A	5.D	6.D	7.A	8.C	9.B	10.A
11.B	12.A	13.C	14.C	15.E	16.C	17.D	18.B	19.C	20.D
21.B	22.C	23.D	24.C	25.C	26.E	27.B	28.A	29.D	30.B

Section 2: Analytical

1.A	2.A	3.E	4.E	5.C	6.E	7.D	8.A	9.C	10.C
11.B	12.C	13.A	14.C	15.D					

Section 3: Language and Communication

1.B	2.D	3.E	4.A	5.A	6.C	7.A	8.A	9.B	10.B
11.B	12.E	13.A	14.E	15.D	16.E	17.D	18.E	19.B	20.E
21.D	22.B	23.B	24.E	25.C	26.A	27.B	28.E	29.A	30.C

Solution of MBA Admission Test 2008 - 09

Mathematics

1. 1 টি egg এর cost price $= \frac{35}{100} = 0.35$ Tk.

1 টি egg এর selling price $= \frac{7.20}{12} = 0.60$ Tk.

1 টি egg এ profit = 0.60 − 0.35 = 0.25 Tk.

0.25 Tk profit হয় 1টি egg এ

∴ 1 Tk " " $\frac{1}{0.25}$ টি egg এ

∴ 30 Tk " " $\frac{30}{0.25}$ টি egg এ

$= \frac{30 \times 100}{25}$ টি egg এ

= 120 টি egg এ অর্থাৎ, Answer B.

2. $\left(\frac{1}{4}\right)^3 + \left(\frac{3}{4}\right)^3 + 3\left(\frac{1}{4}\right)\left(\frac{3}{4}\right)\left(\frac{1}{4} + \frac{3}{4}\right)$

$= \left(\frac{1}{4} + \frac{3}{4}\right)^3 \quad ; [a^3 + b^3 + 3ab\,(a+b) = (a+b)^3]$

$= \left(\frac{1+3}{4}\right)^3 = \left(\frac{4}{4}\right)^3 = 1^3 = 1$ অর্থাৎ, Answer D.

3. মনেকরি, A এর present age 6x

B " " 4x

তাহলে, 5 years আগে, তাদের age এর ratio বের করলে,

$\frac{6x-5}{4x-5} = \frac{5}{3}$

$\Rightarrow 20x - 25 = 18x - 15 \Rightarrow 2x = 10 \Rightarrow x = 5$

∴ A এর present age = 6x = 6 × 5 = 30 years অর্থাৎ, Answer C.

4. X 15 days এ করতে পারে 1 কাজ

1day " " " $\frac{1}{15}$ কাজ

Y 1 day তে করতে পারে $\frac{1}{10}$ কাজ

X, Y, Z, 1 day তে করতে পারে $\frac{1}{5}$ কাজ

∴ Z 1 day তে করতে পারে $\left(\frac{1}{5} - \frac{1}{15} - \frac{1}{10}\right)$ কাজ

$= \frac{6-2-3}{30}$ কাজ $= \frac{1}{30}$ কাজ

∴ Z এর একা কাজটি করতে লাগবে 30 দিন। অর্থাৎ, Answer A.

5. $x = y + y \times 30\%$

$= y + \frac{30y}{100} = y + \frac{3y}{10} = y\left(\frac{13}{10}\right)$

$\therefore \frac{x}{y} \times 100\% = \frac{13}{10} \times 100\% = 130\%$

অথবা

just common sense apply করে করা সম্ভব। x is 30% greater than y মানে, x is 130% of y অর্থাৎ, Answer D

6. $2x + y = 4$
$2x - y = 8$
$\therefore 4x = 12$ (যোগ করে)
$\Rightarrow x = 3$
$\therefore 2\times3 + y = 4$ (মান বসিয়ে)
$\Rightarrow y = -2$
$\therefore 3x - y = 3 \times 3 - (-2) = 9 + 2 = 11$ অর্থাৎ, Answer D.

7. $BC = 2DE = 2 \times 4 = 8$ cm. কারণ,
ত্রিভুজের দুই বাহুর মধ্যবিন্দুর সংযোজক রেখাংশ তৃতীয় বাহুর সমান্তরাল এবং দৈর্ঘ্যে তার অর্ধেক। এখানে, D ও E যথাক্রমে AB ও AC এর মধ্যবিন্দু।

ট্রাপিজিয়াম BCED এর area $= \frac{1}{2} \times (DE + BC) \times DB$

$= \frac{1}{2} \times (4 + 8) \times 3 = \frac{1}{2} \times 12 \times 3 = 18$ অর্থাৎ, Answer A.

8. মনেকরি, Anwar এর আছে a টাকা
Bobby " " b টাকা
$a + 2 = b - 2$
$\Rightarrow a - b = -4$ .....(i)
আবার, $b + 2 = 3(a - 2)$
$\Rightarrow b + 2 = 3a - 6$
$\Rightarrow 3a - b = 8$ .....(ii)
(ii) - (i) $\Rightarrow 2a = 12 \quad \therefore a = 6$
আবার, (i) এর মান বসিয়ে পাই, $b = 10$
অর্থাৎ, Answer C.

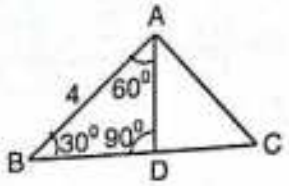
9. মনেকরি $x = 5 \quad y = 3 \quad z = 2$
A. $(x - z)y^2 = 3\times3^2 = 27$ (odd)
B. $(x - z)^2y = 3^2 \times 3 = 27$ (odd) কিন্তু option এ বলা আছে even
অর্থাৎ B option টি true হতে পারেনা, $\therefore$ Answer B.
অথবা, এই অপশনটি value না বসিয়েও করা সম্ভব,
B option এ $(x - z)^2$ = odd (কেননা একটি even ও odd একটি এর বিয়োগফল odd) এবং y = odd
$\therefore (x - z)^2y$ = odd × odd = odd (even হতে পারেনা)

10. মনেকরি, male students x
female " (400 – x)
15% of x + 20% of (400 – x) = 72
$\Rightarrow \frac{15x}{100} + \frac{20(400 - x)}{100} = 72$
$\Rightarrow 15x - 20x + 8000 = 7200$
$\Rightarrow 5x = 800 \quad \therefore x = 160$ অর্থাৎ, Answer A.
অথবা
elimination মেথডে করা যায়। option A তে,
160 male, A পাবে $160 \times \frac{15}{100} = 24$
240 female, A পাবে $240 \times \frac{20}{100} = 48$
A পাবে = 24 + 48 = 72 জন অর্থাৎ, match করে $\therefore$ Answer A.

11. $2^x = \left(16^2 \times 8^3 \times 4^4\right)/2^{20}$
$= \left\{\left(2^4\right)^2 \times \left(2^3\right)^3 \times \left(2^2\right)^4\right\}/2^{20}$
$= \left(2^8 \times 2^9 \times 2^8\right)/2^{20}$
$= 2^{25}/2^{20} = 2^5 \therefore 2^x = 2^5$ or, $x = 5$ অর্থাৎ, Answer B.

12. মনেকরি, Faruk has f marbles
Sanwar has s marbles
$\therefore f = s + x$
আবার, $f + s = y$ [f বসিয়ে]
$\Rightarrow s + x + s = y \Rightarrow 2s + x = y$
$\Rightarrow s = \frac{y-x}{2}$ অর্থাৎ, Answer A

13.



$AD \perp BC$ আঁকি, তাহলে একটি $(30^0, 60^0, 90^0)$ right triahgle পাওয়া যায় যেখানে বাহুর ratio $1: \sqrt{3}: 2$ এখানে, অতিভুজ 4 (2 এর দ্বিগুণ) $\therefore$ AD = 1× 2 = 2 এবং BD = $\sqrt{3}$ x 2 = 2 $\sqrt{3}$
$\therefore BC = 2 \times BD = 4\sqrt{3}$
$\therefore$ Area = $\frac{1}{2} \times BC \times AD = \frac{1}{2} \times 4\sqrt{3} \times 2 = 4\sqrt{3}$
Answer C.

14. $2x + y = 2$
$\Rightarrow x = \frac{2-y}{2}$
এখন, $x + 3y > 6$
$\Rightarrow \frac{2-y}{2} + 3y > 6$
$\Rightarrow \frac{2-y+6y}{2} > 6$
$\Rightarrow 2 + 5y > 12 \Rightarrow 5y > 10 \Rightarrow y > 2$ অর্থাৎ, Answer C.

15. ত্রিভুজের শীর্ষকোণের সমদ্বিখণ্ডক ভূমিকে অপর দুই বাহুর দৈর্ঘ্যের সমানুপাতে অন্তর্বিভক্ত করে।
$\therefore AB : AC = BD : DC$
$\Rightarrow 6 : AC = 5 : 4$
$\Rightarrow \frac{8}{AC} = \frac{5}{4} \Rightarrow AC = \frac{32}{5}$
$\therefore$ AC = 6 . 4 cm যা option এনেই। অর্থাৎ, Answer E

16. 30 liter mixture এ milk = $30 \times \frac{7}{10} = 21$ liter
water = 9 liter
এখন, বাকিটা elimination method এ অথবা x ধরে করা যায়।
মনেকরি, x liter water add করতে হবে,
$\frac{9+x}{30+x} = \frac{40}{100}$
$\Rightarrow 100x + 900 = 1200 + 40x \Rightarrow 60x = 300 \Rightarrow x = \frac{300}{60}$
$\Rightarrow x = 5$ liter অর্থাৎ, Answer C.

17. $2x - 3b = 0$

$\Rightarrow x = \frac{3b}{2}$

এখন, যদি $b < 2$ হয়, অবশ্যই $x < 3$ হবে। ∴ [as, $b/2 < 1$] অর্থাৎ, Answer D

18. Average $= \frac{a+b+c+d}{4}$

$= \frac{a+8d-c+c+d}{4} = \frac{a+9d}{4}$

$= \frac{a+9\times 3a}{4} \; ; \left[\frac{d}{3} = a \therefore d = 3a\right]$

$= \frac{28a}{4} = 7a$ অর্থাৎ, Answer B.

19. $\frac{x}{y} > 0$ এর অর্থ x ও y উভয়ই positive অথবা উভয়ই negative.

সেক্ষেত্রে, $xy > 0$ হবে। অর্থাৎ, Answer C.

20. ধরলাম, ১ম piece টি x meter

২য় piece টি 2x meter

৩য় piece টি 4x meter

এখন, $4x = 3 \Rightarrow x = \frac{3}{4}$

∴rope টির length $= x + 2x + 4x = 7x = 7 \times \frac{3}{4} = \frac{21}{4} = 5.25$ meter অর্থাৎ, Answer D.

21. $10^2 + 10^3 + 10^4 = 10^2(1 + 10^3 + 10^2)$

$= 10^2(1 + 1000 + 100)$

$= 10^2 \times 1101$ অর্থাৎ, Answer B.

22. ধরলাম, group এ লোক সংখ্যা x জন

x জন তারটি করে 24 days এ

1" " " 24x " "

(x – 7) " " " $\frac{24x}{x-7}$ days এ

এখন, $\frac{24x}{x-7} = 30$

$\Rightarrow 30x - 210 = 24x \quad \Rightarrow 6x = 210 \Rightarrow x = 35$ জন

Actually কাজ করেছে = 35 – 7 = 28 জন। অর্থাৎ, Answer C.

23. $3^x = y$

$3^{(4-x)} = \frac{3^4}{3^x} = \frac{3^4}{y} = \frac{81}{y}$ অর্থাৎ, Answer D.

24. পীথাগোরাস অনুসারে,

$h^2 = 6^2 - a^2 \ldots\ldots\ldots\ldots (i)$

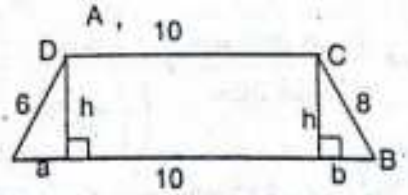
$h^2 = 8^2 - b^2 \ldots\ldots\ldots\ldots (ii)$

(ii) ও (i) হতে পাই, $8^2 - b^2 = 6^2 - a^2$

$\Rightarrow b^2 - a^2 = 8^2 - 6^2 = 64 - 36$

$\Rightarrow b^2 - a^2 = 28$

$\Rightarrow (b + a)(b - a) = 28$



$\Rightarrow 10(b-a)=28$ Idiagram হতে দেখা যায়, $a+b=10$

$\Rightarrow b-a=2.8$ .....(iii)

এখন, $b+a=10$ .....(iv)

(iv) – (iii) $\Rightarrow 2a=7.2 \quad \therefore a=3.6 \quad h=\sqrt{6^2-(3.6)^2}=\sqrt{23.04} \therefore h=4.8$

$\therefore$ Area $=\frac{1}{2}\times(10+20)\times4.8=15\times4.8=72$

অর্থাৎ, Answer C.

25. $3x-2>7$ আবার, $4x>28$

$\Rightarrow 3x>9$ $\Rightarrow 4x>28$

$\Rightarrow x>3$ $\Rightarrow x>7$

এখন, দুটি inequality কে satisfy করে এমন option C. কারণ, $x>7$ হলে, অবশ্যই $x>3$ হবে।

অর্থাৎ, Answer C.

26. মনেকরি, loss এ sell করা article এর cost x

profit এ " " " " $(1400-x)$

এখন, overall কোন profit বাloss নেই, অর্থাৎ দুই article এর profit এবং loss equal.

$$\frac{8x}{100}=\frac{20}{100}(1400-x)$$

$\Rightarrow 8x=28000-20x$

$\Rightarrow 28x=28000$

$\Rightarrow x=1000$

অর্থাৎ, selling price of the article sold at 8% loss = {1000 – (1000 x 8%)} = 920 Tk. অর্থাৎ, Answer E.

27. $\frac{0.0016\times10^{y}}{0.04\times10^{y}}=4\times10^{x}$

$\Rightarrow 0.04\times10^{x-y}=4\times10^{x}$

$\Rightarrow 4\times10^{-2}\times10^{x-y}=4\times10^{x}$

$\Rightarrow 4\times10^{x-y-2}=4\times10^{x}$, or, $10^{x-y-2}=10^{x}$

$\therefore x-y-2=x \Rightarrow -y-2=0 \Rightarrow y=-2$ অর্থাৎ, Answer B.

28. এখানে, ΔADE ও ΔABC সদৃশকোণী ত্রিভুজ বা similar triangle, সদৃশকোণী ত্রিভুজদ্বয়ের area এর অনুপাত তাদের অনুরূপ বাহুদ্বয়ের অনুপাতের বর্গের সমান।

$$\therefore \frac{\Delta ADE\text{ এর }area}{\Delta ABC\text{ এর }area}=\left(\frac{DE}{BC}\right)^2$$

$$\Rightarrow \frac{25}{\Delta ABC\text{ এর }area}=\left(\frac{4}{8}\right)^2=\frac{1}{4}$$

$\Rightarrow \Delta ABC$ এর area = 100 sq. cm অর্থাৎ, Answer A.

29. 40 km/hr speed এ 60 km যেতে, time $=\frac{\text{distance}}{\text{speed}}=\frac{60}{40}=\frac{3}{2}hr$

20 km/hr speed এ বাকি 20 km যেতে, time $=\frac{20}{20}=1hr$

$\therefore$ Average speed $=\frac{\text{Total distance}}{\text{Total time}}=\frac{80\text{km}}{\left(\frac{3}{2}+1\right)\text{hr}}$

$=\frac{80km}{\frac{5}{2}hr}=\frac{80\times2}{5}km/hr$ = 32 km/hr. অর্থাৎ, Answer D.

30. $(x+4)^2 = 9$
$\therefore x + 4 = \pm 3$
$\therefore x = -1$ বা $x = -7$

$(y+3)^2 = 25$
$\Rightarrow y + 3 = \pm 5$
$\therefore y = 2$ বা $y = -8$

$\frac{y}{x}$ এর minimum value $= \frac{2}{-1} = -2$

অর্থাৎ, Answer B.

Analytical

1-5

1. X and R কে select করলে, B, C, Z, & Y কে নেওয়া যাবেনা, সেক্ষেত্রে, 1 টিই 5 member panel করতে হয়-A, P, Q, R, X, কিন্তু তা acceptable নয়, কারন, P, Q, R তিনজন MBA graduate সেক্ষেত্রে panel এর অর্ধেকের বেশি form করে, যা question এর তৃতীয় শর্ত অনুসারে সম্ভব নয়। অর্থাৎ কোন acceptable panel গঠন করা যায় না। ∴ Answer A.

2. X & R কে select করলে B, C, Z & Y কে select করা যাবেনা, সেক্ষেত্রে 4- member panel এর বাকি 2 জন member A, P, Q হতে select করতে হবে। এখন P, Q দুই জনকে একসাথে নেওয়া যাবেনা কারণ তাহলে panel টি দাঁড়ায় P, Q, R, X যা সম্ভব নয়, যেহেতু P, Q, R তিনজন MBA graduate- panel টির অর্ধেকের বেশি form করে। তাই A কে অবশ্যই নিতে হবে। এবং অপরজন হবে P ও Q এর মধ্যে যেকোন 1 জন, অর্থাৎ, Answer A

3. Option A বাদ-কারণ, R cannot be placed with B. Option B বাদ- কারন, at least একজন EMBA graduate panel এ থাকবে যা এখানে নেই।
option C বাদ-কারণ, X cannot be placed with C.
option D বাদ-কারণ, P, Q, R তিনজন MBA graduate panel এর অর্ধেকের বেশি form করে,যা সম্ভব নয়।
option E সব condition satisfy করে। অর্থাৎ, Answer E

4. A, C, Q, R, যদি five member panel এ selected হয় সেক্ষেত্রে X, Y, Z এর মধ্যে একজন হবে fifth member. কারণ already দুইজন BBA graduate (A, C) ও MBA graduate (Q, R) আছে। আরেকজন BBA বা MBA graduate নিলে তা অর্ধেকের বেশি হয়ে যায়, যা সম্ভব নয়।
এখন, X হবেনা, কারণ, X cannot be placed with C
Y হবেনা, কারণ, Y " " " " R
∴ fifth member হবে Z অর্থাৎ, Answer E

5. Three member panel এ দুইজন X & Y হলে অপর member B,C,Z হবেনা, কারণ X cannot be placed with them. R হবেনা কারণ Rcannot be placed with Y. Third member A, P, Q এর মধ্যে একজন হবে।
অর্থাৎ Answer C

6-11

Samsung is first given to → J, K.
Singeris first given to → J, M, L

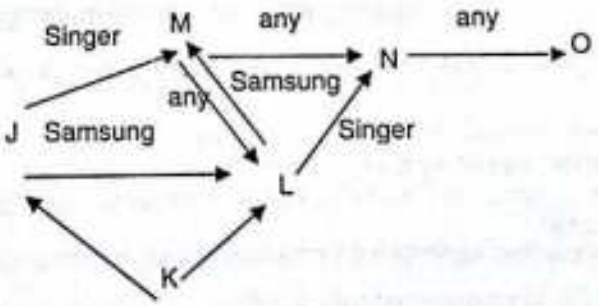
i) J → Samsung → L
J → Singer → M

ii) K → J
K → L

iii) L → Samsung → M
L → Singer → N

iv) M → L
M → N

v) N → O



vi) O can repair any TV.

6. O কাছে repair করানো আসা TV অবশ্যই N এর মাধ্যমে আসতে হবে। (condition V) অর্থাৎ, Answer E

7. A. True (condition i)
B. True (condition ii)
C. True (condition iii)
D. False (condition iii)
E. True (condition iv) অর্থাৎ, Answer D

8. Option A তে দেখানো, K কে Samsung TV দেয়া হলে, তা J, M, L, N এর মাধ্যমে O তে আসতে পারে। (see the diagram) অর্থাৎ, সব সদস্যের হাতে পৌঁছে। ∴ Answer A.

9. Singer TV J থেকে M এবং M থেকে N হয়ে O তে পৌঁছতে পারে (diagram). ∴ Answer C.

10. এখানে, প্রশ্নে বলা হচ্ছে ব্যক্তিটি একই TV একবার pass করেছিল এবং সেই TV টি আবার তার কাছেই এসেছে। এখন, L এবংM এরমধ্যে Two way যোগাযোগ আছে। তাই তাদের মধ্যে TV টি একাধিক বার exchange সম্ভব।
অর্থাৎ, Answer C

11. TV টি যদি J বা K কে দেওয়া হয় সেক্ষেত্রে minimum 3 জন হয়ে O তে পৌঁছবে। তবে যদি M বা L কে দেয়া হয় সেক্ষেত্রে minimum ২ জন হয়ে O তে পৌঁছবে।
M → N→O বা L → N→O
অর্থাৎ, minimum ২জন member হয়ে O তে আসবে। ∴ Answer B

12. এখানে conclusion হল যে the products are of inferior quality. এ থেকে কোনটি infer করা যায় তা বের করতে হবে। এখানে, proper option C. কারণ, customer যা যদি জানতে পারে যে spokesperson যা তাদের brand ব্যবহার করে না। সেক্ষেত্রে তা product এর poor quality indicate করে। তাহলে customer যা অন্য brand এ shift করবে। অর্থাৎ Answer C.

13. এখানে, author এর conclusion হল the brand marketing effort might suffer. সেক্ষেত্রে proper premise টি হবে option A কারণ, যেই spokesperson যা তাদের endorse করে brand ব্যবহার করেনা, তাদের brand-এ loyal থাকে না, তাদেরকে customer যা insincere মনে করে। এভাবে brand marketing effort ক্ষতিগ্রস্ত হয়। অর্থাৎ, Answer A.

14. এখানে, passage এর conclusion এর জন্য proper assumption বের করতে বলা হয়েছে। এখানে malaria ও malaria related death থেকে বাঁচার জন্য mosquito net এর ব্যবহার করার কথা বলা হয়েছে, এজন্য proper assumption হল option C অর্থাৎ malaria এর জন্য মশা দায়ী। ∴ Answer C

15. এখানে কোন statement টি conclusion কে weak করে দেয় তা বের করতে বলার হয়েছে।
option D তে দেখানো, mosquito net treat করার জন্য ব্যবহৃত insecticide মানুষের জীবনের জন্য হুমকি স্বরূপ। এক্ষেত্রে malaria প্রতিরোধে mosquito net ব্যবহারের idea টি দুর্বল হয়ে যায়। অর্থাৎ, Answer D

Language and Communication

1. এখানে, tomato and cheese একত্রে একটি subject হিসেবে use হয়েছে। আর এক্ষেত্রে at pizza ব্যবহার করা যায় না। ∴ Answer B

2. A. বাদ। কারণ এখানে comparative degree use করতে হবে।
B. বাদ। কারণ, এখানে more slimy হবে না। slimier হবে।
C. বাদ। কারণmore slimier use করা যায় না। slimier নিজেই comparative degree.
D. correct answer.
E. বাদ। কারন as slimiest as ব্যবহার করা যায় না। as slimy as, ব্যবহার করা যায়।

3. এখানে E option টিই একমাত্র grammatically correct
A. বাদ,কারণ cooperate together ভুল (redundancy error).
B. বাদ,কারণ must be cooperated ভুল।
C. বাদ, কারণ must cooperative হয়না।
D. বাদ, কারণ it ব্যবহার করা যাবে না। ∴ Answer E

4. A incorrect কেননা were happy to see you again ভুল।এখানে again হবেনা। অর্থাৎ, Answer A

5. A option টির কোন meaning হয় না। তাইভুল। অর্থাৎ, Answer A

6. Option C তে bankrupt এর পরিবর্তে bankruptcy হবে। অর্থাৎ, Answer C

7. option A তে as well এর পরিবর্তে as well as as much হবে। অর্থাৎ, Answer A

8. এখানে, খরচ কমানোর কথা বলা হয়েছে। তাই proper option হবে economizing. অর্থাৎ, Answer A

9. এখানে question গুলো original অর্থাৎ এগুলো test এর জন্য নতুন ভাবে তৈরি হবে। previously used question ব্যবহার করা যাবে না। exclusively ব্যবহার করলে অর্থ দাঁড়ায় শুধুমাত্র previous test এর জন্য বিশেষভাবে তৈরি। অর্থাৎ, Answer B

10. এখানে, বলা হয়েছে herb এর উপকারি গুণগুলোর জন্য তা চিকিৎসালয়ের কাছে মূল্যবান হিসেবে বিবেচিত। অর্থাৎ, beneficial, prized হচ্ছে proper option. ∴ Answer B

11. এখানে বলা হয়েছে যে, তাদের চাহিদা যদিও তুচ্ছ বা বন্ধুসুলভ মনে হচ্ছিল, কিন্তু এর পিছনে ছিল দীর্ঘস্থায়ী শত্রুতার আবরণ। ∴ Answer B

12. এখানে বলা হয়েছে যে, অনেক বাধার সম্মুখীন হওয়ার পর young executive টি কঠোর অধ্যবসায়ের সাথে পরিশ্রম করে ছিল এবং সফল হয়েছিল। অর্থাৎ, Answer E

13. এখানে বলা হচ্ছে, যতদিন পর্যন্ত nation গুলো enough physical power এর ব্যবস্থা করতে না পারবে ততদিন তাদেরকে সহযোগী দেশ বা মিত্রদের উপর নির্ভর করতে হবে। অর্থাৎ, Answer A

14. এখানে বলা হচ্ছে যে, মানুষের উপর বিভিন্ন therapy এর effect পরীক্ষার জন্য বিকল্প বা alternative হিসেবে animal দের ব্যবহার করা হয়েছে। অর্থাৎ, Answer E

15. এখানে বলা হচ্ছে যে, শিকার এবং শিকারীর যে natural relation আছে তা মানুষের হস্তক্ষেপের দ্বারা বাধাগ্রস্ত হয়েছে। অর্থাৎ, Answer D

16. এখানে সবগুলোই correct। অর্থাৎ, Answer E

17. এখানে, (i) ও (ii) দুটি option ই correct. (iii) নং option টিতে assertion এর পরিবর্তে assertiveness হবে। অর্থাৎ, Answer D

18. (i) ভুল কেননা eloquent হবে।
(ii) correct
(iii) correct অর্থাৎ, Answer E

19. (i) correct
(ii) correct
(iii) apathetic বলে কোন শব্দ নেই। তাইভুল। অর্থাৎ, Answer B

20. এখানে, সবগুলোই correct, অর্থাৎ, Answer E

21. এখানে, option D তে ভুল, yield এর পর in / কোন preposition হবে না। অর্থাৎ, Answer D

22. এখানে, option B তে ভুল। repeated এর পর again হয় না। কারণ, redundant use of word. অর্থাৎ, Answer B

23. এখানে, option B তে ভুল। remarks এর পরিবর্তে remark হবে। অর্থাৎ, Answer B

24. এখানে, কোন ভুল নাই। অর্থাৎ, Answer E

25. এখানে, option C তে has হবে। অর্থাৎ, Answer C

26. এখানে, 1st ও 2nd paraতে quantitative analysis এর importance এর কথা বলা হয়েছে। অর্থাৎ, Answer A

27. 3rd para এর middle এ বলা আছে। অর্থাৎ, Answer B

28. 3rdpara এর 2nd & 3rd line এ বলা আছে। অর্থাৎ, Answer E

29. Option A টি passage থেকে infer করা যায় না। অর্থাৎ, Answer A

30. 3rd para থেকে দেখা যায় যে, এই expert রা quantitative analysis কে equally value করে নাই। Individual thought process এর উপর বেশি গুরুত্ব দিয়েছে। অর্থাৎ, Answer C.

MBA (IBA)

Admission Test Question (2009-2010) with Solution

PART I: Multiple Choice Questions (MCQ) 75 Questions: 75 Marks

SECTION I: LANGUAGE & COMMUNICATION (Questions 1 to 30)

Questions 1 to 5: Fill in the Gaps

Instruction: *Select the pair of words that appropriately fill-in the gaps in each sentence.*

1. Rakib had never visited the Niagara Falls, but he could appreciate their splendor ____through the ____ of others.

A) vicariously ... descriptions B) heedlessly ... account C) innocuously...fascinate
D) mystically ... eyes E) voluminously ... narration

2. Because King Philip's desire to make Spain the dominant power in sixteenth-century Europe ran counter to Queen Elizabeth's insistence on autonomy for England, ____ was ____.

A) reconciliation ... assured B) warfare ... avoidable C) ruination ... impossible
D) conflict...inevitable E) diplomacy ... simple

3. The ____ of the program charged with developing a revolutionary reactor based on nuclear fusion confidently predicted that there would soon be proof of the reactor's _____.

A) directors ... redundancy B) adversaries ... profitability C) originators ... futility
D) critics ... efficiency E) advocates ... feasibility

4. Members of the research team were initially so adversarial that _____ seemed impossible; the project's inauspicious start made its final success all the more _____.

A) concentration ... incidental B) disagreement... incongruous C) collaboration ... predictable
D) hostility ... dazzling E) cooperation ... remarkable

5. Mamun's radical ideas were_____ upon by most of his co-workers, who found them too_____ for their conservative tastes.

A) frowned ... heretical B) hated ... meticulous C) looked ... precise
D) bragged ... incoherent E) praised ... sagacious

Questions 6 to 7: Reading Comprehension

Instruction: *Read the following passage and select the best answer for each of the questions that follow.*

Researches suggest that there are creatures that do not know what light means at the bottom of the sea. They don't have either eyes or ears; they can only feel. There is no day or night for them. There are no winters, no summers, no sun, no moon, and no stars. It is as if a child spent its life in darkness in bed, with nothing to see or hear. How different our own life is! Sight shows us the ground beneath our feet and the heavens above us -the sun, moon, and stars, shooting stars, lightning, and the sunset It shows us day and night. We are able to hear voices, the sound of the sea, and music. We feel, we taste, we smell. How fortunate we are

6. Judging from the passage, we can say that this story is mainly about -

A) life of sea creatures at the bottom of the sea.
B) how changes in the seasons are perceived by the deep-sea creatures.
C) how wonderful our lives were and will be.
D) the differences among creatures of the earth and those of the sea.
E) the superiority of human beings over some creatures in terms of senses.

7. We discover that the sea creatures in the story -

A) have the same senses that we do
B) have no sense of hearing as well as sight
C) hear the sounds of the ocean
D) live in darkness because no light reaches to the bottom
E) do not hear the sound of sea as they are accustomed to it

Questions 8 to 10: Reading Comprehension

Instruction: *Read the following passage and select the best answer for each of the questions that follow.*

In corporate purchasing, competitive scrutiny is typically limited to suppliers of items that are directly related to end products. With "indirect" purchases (such as computers, advertising, and legal services), which are not directly related to production, corporations often favor "supplier partnerships" (arrangements in which the purchaser forgoes the right to pursue alternative suppliers), which can inappropriately snend -rigorous competitive scrutiny that might afford the purchaser economic leverage. There are two independent variables—availability of alternatives and ease of changing suppliers—that companies should use to evaluate the feasibility of subjecting suppliers of indirect purchases to competitive scrutiny. This can create four possible situations.

In Type 1 situations, there are many alternatives and change is relatively easy. Open pursuit of alternatives— by frequent competitive bidding, if possible—will likely yield the best results. In Type 2 situations, where there are many alternatives but change is difficult—as for providers of employee health-care benefits—it is important to continuously test the market and use the results to secure concessions from existing suppliers. Alternatives provide a credible threat to suppliers, even if the ability to switch is constrained. In Type 3 situations, there are few alternatives, but the ability to switch without difficulty creates a threat that companies can use to negotiate concessions from existing suppliers. In Type 4 situations, where there are few alternatives and change is difficult, partnerships may be unavoidable.

8. Which of the following best describes the relation of the second paragraph to the first?
A) The second paragraph offers proof of an assertion made in the first paragraph.
B) The second paragraph provides an explanation for the occurrence of a situation described in the first paragraph.
C) The second paragraph discusses the application of a strategy proposed in the first paragraph.
D) The second paragraph examines the scope of a problem presented in the first paragraph.
E) None of these

9. Which of the following can be inferred about supplier partnerships, as they are described in the passage?
A) They cannot be sustained unless the goods or services provided are available from a large number of suppliers.
B) They can result in purchasers paying more for goods and services than they would in a competitive-bidding situation.
C) They typically are instituted at the urging of the supplier rather than the purchaser.
D) They are not feasible when the goods or services provided are directly related to the purchasers' end products.
E) None of these

10. According to the passage, which of the following factors distinguishes an indirect purchase from other purchases?
A) The degree of importance of the purchased item in the purchasing company's business operations.
B) The number of suppliers of the purchased item available to the purchasing company.
C) The methods of negotiation that are available to the purchasing company
D) The relationship of the purchased item to the purchasing company's end product.
E) None of these.

Questions 11 to 18: Appropriate English Usage

11. "Nahar and Jamil had to work late in order to make their deadline." If you rewrite this sentence beginning with Tomorrow evening, the next words should be -
A) Nahar and Jamil will have to B) their deadline had to be made C) their deadline will have
D) their work will have been E) Nahar and Jamil have had to

12. "A list of books about repairing and selling cars are in the file on the table." Which correction should be made to this sentence?
A) replace of with to B) insert them after repairing C) insert a comma after selling
D) change are to is E) insert a comma after file

13. "Check that the door is locked behind you." If you rewrite the sentence beginning with Make sure that you, what should the next words in the sentence be?
A) are locking the door B) are checking that the door was locked
C) have checked the door locked D)have locked the door E) did your locking of the door

14. "If your payment is not received in thirty days, you will be charged a late fee". Which is the best way to write, the underlined portion of this sentence? If the original is the best way, choose option (A).
A) thirty days, you will be charged B) thirty days, you would be charged
C) thirty days, you were charged D) thirty days, you have been charged
E) thirty days, you will charge

15. "Tomorrow the lines at the department store were longer than we have ever seen." Which correction should be made to this sentence?
A) changestore to store's B) change were to will be C) replace wewiththey
D) changehave ever seen to ever seenE) no correction necessary

16. "The path winding through the flower gardens are peaceful and quiet on weekdays but crowded on weekends." Which is the best way to write the underlined portion of this sentence? If the original is the best way, choose option (A).
A) winding through the flower gardens are B) winding through the flower gardens, are
C) winding through the flower gardens were D) winds through the flower gardens are .
E) winding through the flower gardens is

17. "The manager and his assistant plans to rearrange the display window to feature newer items." Which correction should be made to this sentence?
A) insert a comma after manager B) replace his with herC) change plans to plan
D) inserta comma after window E)no correction necessary

18. "Those who want to attend the conference should turn in their registration today." Which correction should be made to this sentence?
A) replaceThose with Them B) change who to whomC) change want to wants
D) replacetheir with your E) no correction necessary

Questions 19 to 24: Sentence Correction

Instruction: For each of the following questions, the underlined part of the sentence may contain problems in grammar, construction, word choice, and/or punctuation. Part or whole of each sentence is underlined. Given are five alternatives of phrasing the underlined section. Alternative (A) always repeats the underlined section exactly. Choose the best answer choice.

19. The end of the eighteenth century saw the emergence of prize-stock breeding, with individual bulls and cows receiving awards, fetching unprecedented prices, and excited enormous interest whenever they were put on show.
A) excited B) it excited C) exciting
D) would excite E) it had excited

20. There are now many kinds of dictionaries, such as a dictionary of synonyms and antonyms, a biographical dictionary, and a geographical dictionary with pronunciations given.
A) with pronunciations given B) that has pronunciations given C) with pronunciations' given
D) that have pronunciations given E) that do have pronunciations given

21. Possible long-term consequences of the "greenhouse effect," the gradual warming of the Earth's climate, may include melting the polar ice caps and a rising sea level.
A) may include melting the polar ice caps and a rising sea level
B) may include the melting of polar ice caps and the rising sea level
C) may include polar ice caps that are melting and sea levels that are rising
D) include melting the polar ice caps and sea levels that are rising
E) include melting of the polar ice caps and a rise in sea level

22. A new hair-growing drug is being sold for three times the price, per milligram, as the drug's maker charges for another product with the same active ingredient.
A) as B)than C)that D) of what E) at which

23. Although the term "psychopath" is popularly applied to an especially brutal criminal, in psychology it is someone who is apparently incapable of feeling compassion or the pangs of conscience.
A) it is someone who is B) it is a person C) they are people who are
D) it refers to someone who is E) it is in reference to people

24. The Call center executive was asked to talk nicely, clearly, and in a detailed manner.
A) The Call center executive was asked to talk nicely, clearly, and in a detailed manner
B) The Call center executive was asked to talk nicely, clearly, and thoroughly
C) The Call center executive was asked, talk nicely, talk clearly, and talk in a detailed manner
D) The Call center executives were asked, talk nicely, talk clearly, and talk in a detailed manner.
E) The Call center executive was asked to talk nicely and clearly

Questions 25 to 27: Reading Comprehension

Instruction: *Read the following passage and select the best answer for each of the questions that follow.*

Genocides have occurred from time to time in different parts of the world throughout history. One of the most horrific genocides occurred in Bangladesh in the year 1971, when hundreds of thousands of men, women and children were slaughtered systematically. The term genocide, a joining of the Greek *genos*, meaning race or tribe, and the Latin suffix *-cide*, or killing, was coined in 1946 by a distinguished international legal scholar, Professor Raphael Lemkin. The mass murder of six million Jews by the Nazis was the most vivid, violent, and tragic expression of genocide. But this century alone has seen others - Armenians, Gypsies, Chinese, Slavs. Some 20 million people have been slaughtered because of their racial, religious, or ethnic backgrounds. In the language of the United Nations Convention on the Prevention and Punishment of the Crime of Genocide, genocide means certain specifically defined acts "committed with intent to destroy in whole or in part, a national, ethnical, racial or religious group, as such."

25. The word genocide literally means -
A) mass murder B) race killing C) slaughter D) convention E) None of these

26. According to this passage, genocide involves intent to destroy all of the following EXCEPT -
A) nations B) races C) ethnic groups D) political groups E) religious groups.

27. All of the following have been subjected to genocide EXCEPT -
A) Jews B) Nazis C) Slavs D) Gypsies E) Chinese

Questions 28 to 30:

Instruction: There is a passage below. However the sentences are not in the original order. Your task is toidentify the correct order of the sentences as was in the original passage and answer the questions that follow.

In this respect, the central bank maintains some strict regulations to minimize such failures and ensure the safety of depositors' money (Line α). However, it sometimes eases some rules when the financial institutions work towards the betterment of the poor (Line Ω). This flexibility in the part of the central bank has allowed the financial institutions to come up with many innovative products designed for the poor (Line δ). There is a complex relationship working among central bank, financial institutions, lenders, large borrowers and the poor section (Line μ). The first three bodies are playing major role for any success or failure of any event in the financial market (Line β).

28. Which of the following will be the first line of the original passage?
A) Line α B) Line Ω C) Line δ D) Line μ E) Line β

29. Which of the following will be the fourth line of the original passage?
A) Line α B)Line Ω C) Line δ D) Line μ E) Line β

30. Which should be the last line of the original passage?
A) Line α B) Line Ω C) Line δ D) Line μ E) Line β

SECTION II: MATHEMATICS (Questions 31 to 55)

Instruction: *For each of the questions below choose the best answer from the given alternatives.*

31. A certain cake recipe states that the cake should be baked in a pan 8 inches in diameter. If Salma wants to use the recipe to make a cake of the same depth but 12 inches in diameter, by what factor should she multiply the recipe ingredients?
A) 2.5 B) 2.25 C) 1.5 D)1.33 E) None of these

32. The cost, in taka of manufacturing X units of products is $(9{,}000 + 400X)$. The amount received when selling these Xunits of products is taka $500X$ .What is the least number of products that must be manufactured and sold so that the amount received is at least equal to the manufacturing cost?
A) 10 B)18 C) 45 D) 90E) None of these

33. Which of the columns below has the greatest value?

Column 1	Column 2	Column 3	Column 4
$(-6)^3$	$(-6)^4$	$(-6)^5$	$(-6)^6$

A) Column 1 B) Column 2 C) Column 3 D) Column 4 E) All are equal

34. A motorcycle stunt man belonging to a fair rides over the vertical walls of a circular wall at an average speed of 54 km/h for 5 minutes. If the radius of the wall is 5 meters then the distance traveled is -
A) 2.5 km B) 3.5 km C) 5 km D) 4.5 km E) None of these

35. Mr. Asif is a potato seller in a local bazaar. When he brings potatoes from the village market to his shop in the town he has to pay 7% toll on the portion of the total value of the potatoes in excess of taka 1,000 to the local *mastaan*. If the amount of toll he paid was taka 87.50, then what was the value of the potatoes that he brought to sell?
A) taka 1,250 B) taka 2,250 C) taka 2,500 D) taka 2,750 E) taka 2,333

36. Mr. Rashid is a vegetable farmer. His neighbor's goat regularly enters his vegetable garden and destroys his vegetables. To protect his vegetables Mr. Rashid wants to put up fencing around three sides of his rectangular yard and leave a side of 20 feet unfenced as that side is facing the canal and needs no fence. If the garden has an area of 680 square feet, how many feet of fencing does he need?
A) 34 B) 40 C) 68 D) 88 E) None of these

37. A wholesaler bought 2100 MBA admission guide books for taka 20 each. The wholesaler sold 50 percent of the books for taka 35 each and the rest for taka 18 each. What was the wholesaler's average profit per book?
A) taka 6.5 B)taka13 C) taka 7 D) taka 5 E) taka 3.33

38. Janata Garments Ltd. (JGL) has specific sales targets for all its sales managers. One of the managers Mr. Dhiman has a sales target of taka 50 million per quarter. Accounts show that during the first three quarters he has sold taka 10, 15, and 20 million worth of goods respectively. How much in taka should Mr. Dhiman sell during the fourth quarter in order to maintain the average sales target?
A) 10 million B) 5 million C) 250 million D) 155 million E) None of these

39. The ratio of income of Kamran and Dolon is 3:4. The ratio of their expenditures is 4:5. Find the ratio of their savings if the savings of Kamran is one fourth of his income?
A) 5: 4 B) 19:12 C) 4: 6 D) 12: 19 E) 10:20

40. A box contains only marbles. If 1/4 of the marbles were removed, the box would be filled to 1/2 of its capacity. If instead 100 marbles were added, the box would be full. How many marbles are in the box?
A) 100 B) 200 C) 250 D) 300 E) None of these

41. A set of 6 flower vases of different sizes cost Manik taka 825. Each vas costs 25 taka more than the next one below it in size. What was the cost of the largest vase?
A) 175 B)185C) 200 D) 215 E) None of these

42. If the value of X and Y in the fraction XZ/Y are both tripled, how does the value of the fraction change?
A) increases by half B) decreases by half C) triples D) doubles E) remains the same

43. An equilateral triangle is inscribed in a circle, as shown below. If the radius of the circle is 2, what is the area of the triangle? (figure not drawn to scale)

A) $\frac{\sqrt{2}}{2}$ B) $\sqrt{2}$ C) $3\sqrt{3}$ D) $10\sqrt{3}$ E) None on these

44. In the figure below, PQRS is a square and M and N are midpoints of their respective sides. Each side of the square has a length of 4 inches. What is the area of quadrilateral PMRN? (figure not drawn to scale)

A) 8 sq inches B) 10 sq inches C) 12 sq inches D) 14 sq inches E) None on these

45. A class of 20 students borrowed library books for their research projects. Some of the students borrowed 3 books each, and the rest borrowed 2 books each. If a total of 52 books were borrowed, how many of the students borrowed 3 books each?
A) 8 B) 9 C)10 D) 12 E)13

46. In a journey from Banani to Motijheel half the people on a bus exit at each stop and no additional passengers board the bus. If on the third stop the next to last person exits the bus, then how many people were on the bus at the time of the start of the journey?
A) 20 B)16 C) 8 D) 6 E) None of these

47. A shop in the IDB Bhaban quotes the price of a local brand of computer with or without a DVD writer. The computer with the DVD writer costs 29,000 taka. The computer without the DVD writer costs 19,500 taka more than the DVD writer alone. What is the cost of the DVD writer?
A) taka 4,000 B) taka 4,500 C) taka 4,750 D) taka 5,000 E) None of these

48. The retail price of a pen is 40 taka. Asif got a discount of 20% over the retail price and he eventually saved taka 240 on his total purchase of the pens. How many pens did he buy?
A) 20 B) 24 C) 12 D) 30 E) None of these

49. A group of pilgrims, starting from Faridpur and traveling by a bus, had to stop after they covered $^1/_2$ of the total distance to the destination, Sylhet. They had to stop again after they traveled $^1/_4$ of the remaining distance. Then the group covered the remaining 120 kilometers at a stretch. What is the total distance, in kilometer, from Faridpur to Sylhet?
A) 320 B) 380 C) 420 D) 280 E) None of these

Question 50 - 55: Data Sufficiency.

Each of the questions below is followed by two statements labeled (i) and (ii). Analyze the information given in the statements (i) and (ii) and then mark the appropriate code in your answer sheet. The alternative codes are explained below.

A. If statement (i) BY ITSELF is sufficient to answer the question, but statement (ii) by itself is not.
B. If statement (ii) BY ITSELF is sufficient to answer the question, but statement (i) by itself is not.
C. If statements (i) and (ii) TAKEN TOGETHER are sufficient to answer the question, even though NEITHER statement BY ITSELF is sufficient.
D. If EITHER statement BY ITSELF is sufficient to answer the question.
E. If statements (i) and (ii) TAKEN TOGETHER are NOT sufficient to answer the question and even more data are required.

50. How many liters of apple juice were added to the orange juice in a certain container?
i) The amount of apple juice that was added was 3/2 the amount of orange juice in the container.
ii) There were 5 liters of orange juice in the container.

51. In a demographic study, the population size and total income of a certain region were estimated from other data, and both estimates had lower and upper limits. At the time of the estimates, was the per capita income for the region greater than taka 16,500?
i) The lower limit for the estimate of the population was 330,000 people.
ii) The lower limit for the estimate of the total income was taka 5,500,000,000.

52. By what percent was the price of a certain television set discounted for a sale?
i) The price of the television set before it was discounted for the sale was 25 percent greater than the discounted price.
ii) The price of the television set was discounted by Tk. 60 for the sale.

53. What is the value of x?
i) $x^2 + y^2 = 25$ ii) $xy = 12$

54. If $x^2 + 3x + c = (x + a)(x + b)$ for all x, what is the value of c?
i) $a = 1$ ii) $b = 2$

55. The ratio of the number of women to the number of men to the number of children in a room is 5:2:7. What is the total number of people in the room?
i) The total number of women and children in the room is 12.
ii) There are fewer than 4 men in the room.

SECTION iii: ANALYTICAL ABILITY (Questions 56 to 75)

Questions 56 - 57 refer to the following passage

The Japanese economic model created strong domestic industries through subsidies from its Ministry of Trade and by closing off competitive foreign firms to its domestic market. This strategy promised to help economic growth by incubating domestic industries. New Japanese industries could count on a known local demand and would be protected from competition from abroad by tariffs and other barriers. It also ensured steady profits to local manufacturers as they had enough control over the prices of commodities in absence of foreign competition. The program could reduce the amount of imports and therefore improve the nation's balance of trade.

56. Which of the following, based on the passage above, could be a weakness in this economic strategy?
A) A protectionist policy will get Japan involved in warfare.
B) Fast growth of small industries will create a class of millionaires and increase the inequality of income.
C)Constraints keep domestic prices high and impose a burden on consumers.
D) Quotas are more regressive than tariffs.
E) The demand for the products made by the incubated industries would not be known.

57. What can we conclude from the above passage?
A) A protectionist policy will create animosity among other nations.
B) Government policy support greatly helps to create strong domestic industries.
C) Restricting foreign competition contributes to improvement of quality in the domestic sector
D) Balance of trade means to increase import and reduce export E) All of the above

Questions 58 - 59 refer to the following passage

The principal evil in today's society is selfishness. Everywhere we see people, who are concerned only with themselves. Personal advancement is the only motivating force in the world today. This does not mean thatindividuals are not willing to help one another; on the contrary, _____. But, these are only short-term occurrences which ultimately serve our long-term goal of personal gain.

58. Which of the following is the best way to fill up the gap in the above passage?
A) we are always trying to undermine others' endeavors
B) my uncle Kalam used to help me with my homework
C) no one can be trusted, not even close friends
D) our yearning for power prevents us from understanding our existential purpose
E) there are many occasions when we graciously offer our assistance

59. Which among the following options would most strongly contradict the author's attitude towards society?
A) The greatest strength of society is altruism.
B) The forces of good will ultimately triumph over evil.
C) Our short-term actions may ostensibly contradict our long-term goals.
D) We must all learn the art of selfishness.
E) Morality is the bedrock of a growing community.

Questions 60 - 61 refer to the following passage

Teesta River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Teesta River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

60. Which of the following most logically completes the argument above?
A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices.
B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
C) the spring wheat that farmers in the Teesta River region plant is well adapted to the soil of the region
D) spring wheat has uses that are different from those of winter wheat
E) planting spring wheat is more profitable than planting certain other crops, such as rye

61. Which of the following options best fills the gap in the statement below?
It follows from the above passage that _____ has a good amount of impact on the decision that are being made by the farmers in the agriculture sector regarding which crop to cultivate and when.
A) seasonal impact B) crop price C) crop yields D) government policy
E) irrigation

62. A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants bydifferences in shades of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.
Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?
A) There is a considerable degree of variation in shade of color between weeds of different species.
B) The shade of color of some plants tends to change appreciably over the course of their growing season.
C) When crops are weeded manually, overall size and leaf shape are taken into account in distinguishingcrop plants from weeds.
D) Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.
E) Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

63. Most stuffed toys are stuffed with industrial cotton. There are stuffed bears and stuffed tigers. Some chairs are stuffed with industrial cotton.
If the first three statements are true then which of the following statements must also be true?
i. Only children's chairs are stuffed with industrial cotton.
ii. All stuffed tigers are stuffed with industrial cotton.
iii. Stuffed monkeys are not stuffed with industrial cotton.
A) I only B) II only C) II and III only D) I, II and III only E) None of these

Questions 64 - 65 refer to the following passage

A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, many companies chargo the greatest price the market will bear when they have such a product. But **large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities.**

64. In the argument above, the two portions in **boldface** play which of the following roles?
A) The first is an assumption that forms the basis for a course of action that the argument criticizes; the second presents the course of action endorsed by the argument.
B) The first is a consideration raised to explain the appeal of a certain strategy; the second is a consideration raised to call into question the wisdom of adopting that strategy.
C) The first is an assumption that has been used to justify a certain strategy; the second is a consideration that is used to cast doubt on that assumption.
D) The first is a consideration raised in support of a strategy the argument endorses; the second presents grounds in support of that consideration.
E) The first is a consideration raised to show that adopting a certain strategy is unlikely to achieve the intended effect; the second is presented to explain the appeal of that strategy.

65. It follows from the above passage that to maximize overall profit from a new technologically superior product the best strategy would be to,
A) Charge less than the greatest possible price.
B) Charge the highest possible price that the market has to offer.
C) Charge less than the competitor's lower quality product.
D) Not to develop products which are technologically superior in comparison to the competitor's product.
E) None of these

Questions 66 - 69 refer to the following passage

Progoti Theatre ensemble is considering two male actors— Jahangir and Kamal and three female actors— Rehana, Sarah and Tania to be cast in its upcoming mythological stage drama. The drama has exactly eight roles. The roles of king, soldier and barber are to be played by male actors and the roles of queen, housewife and maid servant must be played by a female actor. The roles of a singer and a comedian can be played by actors of both genders. While assigning the roles the director of the drama has to consider the following things:

Each actor must play at least one role and it is understandable that some of the actors will play more than one role.

The pairs of the roles below are the only pairs that do not require the actors playing the roles to be on the stage at the same time: appearances in these roles are spaced far enough apart to allow time for costume changes for actors playing more than one role.

- The roles of king and soldier
- The roles of barber and maid servant
- The roles of barber and singer
- The roles of queen and housewife
- The roles of queen and comedian
- The roles of housewife and comedian

Rehana and Sarah cannot play roles that require them to be on stage at the same time.

66. Which of the following pairs of roles could not be played by the same actor?
A) The roles of barber and maid servant B) The roles of king and soldier
C) The roles of barber and singer D) The roles of queen and housewife E) None of these

67. The director has a few options of the assignments of the roles of queen, housewife and maid servant respectively. Which of the following is an acceptable one?
A) Rehana, Sarah and Tania B) Rehana, Tania and Rehana
C) Rehana, Rehana and Rehana D) Sarah and Tania and Rehana E) None of these

68. The director can cast Jahangir in any of the roles except:
A) King B) Soldier C) Barber D) Comedian E) None of these

69. Regardless of other role assignment one actor of the following cannot play more than one role. Who is he/she?
A) Jahangir B) Kamal C) Rehana D) Tania E) None of these

Questions 70 - 73 refer to the following passage

In an athletic practice session the coach has four flags to signal his players. The flags are of colours red, green, blue and yellow. These flags are used to signal the athletes to let them know when they should start a new lap. There are five athletes named Daud, Emran, Firoz, Gofur and Hanif.

- To signal Daud, all four flags are raised.
- To signal Emran, red and green flags are raised.
- To signal Firoz, only red flag is raised.
- To signal Gofur, green, blue and yellow flags are raised.
- To signal Hanif, blue and yellow flags are raised.

70. If blue and yellow flags are raised then which of the following athletes is/are signaled?
    i. Daud ii. Gofur iii.Hanif
    A) J only B) I and II only C) II and III only D)I, II and III E) None of these
71. If red flag is not raised then which of the following athletes is/are signaled?
    i. Emran ii. Gofur iii.Hanif
    A) I only B) I and II only C)Iland III only D) I, II and III E) None of these
72. If blue flag is raised and green flag is not raised then which of the following athletes is signaled?
    A) Hanif B) Efnran C) Firoz D) Gofur E) None of these
73. If any one of the athletes is signaled then flags in which of the following pairs cannot both be off?
    A) red&green B) green and blue C) red and blue D) blue and yellow E) None of these
74. One king out of frustration with the rebels commented *"Distribution of leaflets and delivering speeches on the king's property should be outlawed. Radicals and fanatics have no right to use* the king's *property when peddling their unsavory views."*
    The argument above is based on the assumption that -
    A) The general public has a special concern in the free exchange *of different political* views.
    B) Radicals and fanatics prefer the use of king's property white propagating their viewpoint.
    C) Every person who hands out leaflets and delivers speeches is a radical or fanatic.
    D) Legal constraints which are applicable to one group need not be equally applicable to all.
    E) Any political activity, which hinders the proper functioning of the king's office should not *be* protected by the law.
75. In a prison house with three prisoners in three separate cells, the guards use colored lights to keep track when prisoners go in and out of their cells. The green light turns on only when both cell A and cell C are occupied. The red light is always on unless either cell A or cell B is unoccupied. Given that the green light is on, we can conclude all of the following EXCEPT:
    A) Cell A cannot be un-occupied
    B) The red light must be on
    C) Cell C cannot be un-occupied
    D) We don't have enough information to determine whether cell B is occupied or not
    E) None of these

SECTION B. Critical Writing

Marks: 20

Read the following carefully:

The advancement in technology over the years has done little to advance the cause of humanity. The world has seen more and more sophisticated weapons of mass destruction thanks to the so called "technological advancement". Human beings have become increasingly mechanized and indifferent to the sufferings of fellow human beings.

Discuss how well reasoned you find the above point of view. State your opinion **indetail.** State clearly whether you agree or disagree with the argument. Be sure to include additional **reasons, explanations, examples** to support your way of thinking.

ANSWER KEY

Section I: Language and Communication

1.A	2.D	3.E	4.E	5.A	6.E	7.B	8.C	9.B	10.A
11.A	12.D	13.D	14.A	15.B	16.E	17.C	18.E	19.C	20.A
21.E	22.D	23.D	24.B	25.B	26.D	27.B	28.D	29.B	30.C

Section II: Mathematics

31.B	32.D	33.D	34.D	35.B	36.D	37.A	38.D	39.D	40.B
41.C	42.E	43.C	44.A	45.D	46.C	47.C	48.D	49.A	50.C
51.E	52.A	53.E	54.D	55.D					

Section III: Analytical Ability

56.C	57.B	58.E	59.A	60.A	61.D	62.D	63.E	64.B	65.A
66.A	67.A	68.D	69.D	70.D	71.E	72.A	73.C	74.C	75.B

Solution of MBA Admission Test 2009 – 10

Language and Communication

1. Ans. A: এখানে mean করা হচ্ছে যে, Rakib অন্যের description এর উপর ভিত্তি করে Niagra fall এর beauty observe করেছে।
2. Ans. D: King Phillip & queen Elisabeth এর ভিন্ন স্বার্থের জন্য তাদের মধ্যে conflict অবশ্যম্ভাবী।
3. Ans. E: Nuclear reactor তৈরির দায়িত্ব গ্রহণকারীরা এর বাস্তবতার ব্যাপারে প্রমাণ দিতে সক্ষম হবেন, এ কথা বলা হয়েছে।
4. Ans. E: এখানে বলা হয়েছে যে, team member রা একই বিরুদ্ধাচারন ও অসহযোগিতা করেছে, তারপরও এর সাফল্য দৃষ্টান্তমূলক।
5. Ans. A: এখানে বলা হয়েছে, Mamun এর idea শুনে তার সহকর্মীরা ভুকুটি করেছিল কারণ তারা মনে করছিল যে idea গুলো প্রচলিত বিশ্বাসের বিরুদ্ধে।
6. Ans. E: Passage পড়ে মানুষের superior quality এর বর্ননা পাওয়া যায়।
7. Ans. B: 2nd line এ দেওয়া আছে।
8. Ans. C: 1st Para তে corporate purchasing এর বিভিন্ন দিক এবং 2nd Para তে এর apply করার কথা বলা হয়েছে।
9. Ans. B: Supplier relationship এর উপর ভিত্তি করে প্রয়োজনে Purchaser রা কিছুটা বেশী দামে product কিনতে প্রস্তুত একথা passage থেকে infer করা যায়।
10. Ans. A: Indirect purchase আর other purchase কে product এর importance দ্বারা differentiate করা যায়।
11. Answer A. এখানে, Tomorrow Evening ব্যবহার করায় বাক্যটি future tense এ চলে গেছে। তাই Answer "Nahar and Jamil will have to"
12. Answer D: সাবজেক্ট "List of books" হচ্ছে singular. সেইজন্য এটা singular verb নিবে। তাই "are" বদলিয়ে আমরা "is" নিবে।
13. Answer D: আগের বাক্যের meaning এর সাথে consistency মিলানোর জন্য আমরা D choose করব।
14. Answer A: বাক্যটিতে future tense এ passive voice –এর ব্যবহার হয়েছে।
15. Answer B: বাক্যে" tomorrow" শব্দটি আছে তাই এটি future tense বোঝায়। সেইজন্য "were" কে পাল্টিয়ে "will be" লিখতেহবে।
16. Answer E: Subject "path" হচ্ছে singular এবং তাই" is" verb টা নেওয়া উচিত।
17. Answer C: এখানে subject plural. তাই Verb টি plans এর বদলে plan হবে।
18. Answer E: বাক্যটি ঠিক। কোন পরিবর্তন এর প্রয়োজন নেই।
19. Answer C: Underlined শব্দ "excited" টা parallel structure এর জন্য "receiving", "fetching" এর সাথে মিলতে হবে।
20. Answer A: কোন পরিবর্তন এর প্রয়োজন নেই।
21. Ans. E: "Consequences" শব্দটি global warming –এর consequences বোঝাচ্ছে। তাই underlined জায়গাটিতে noun/gerund-এর আগে include হবে ।
22. Ans. D: এখানে as এর পরিবর্তে of what হবে।
23. Ans. D: এখানে "it refers to someone who is" একমাত্র appropriate option.
24. Ans. B ;এখানে parallel structure follow করতে হবে।
25. Ans. B; Genocide মানে race killing.
26. Ans. D; Genocide এর under এ political groups পড়েনা।

27. Ans. B: Nazi refers to a political group. তাইতা genocide এর under এ পড়েনা।
28. Answer D
29. Answer B
30. Answer C

Mathematics

31. প্রথম ক্ষেত্রে, Volume = $\pi(4)^2h = 16\pi h$ (diameter 8 inches)
দ্বিতীয় ক্ষেত্রে, Volume = $\pi(6)^2 h = 36\pi h$ (diameter 12 inches)

অর্থাৎ, দ্বিতীয়টির Volume দাঁড়াবে = $\frac{36\pi h}{16\pi h} = \frac{9}{4} = 2.25$ times

Ingredients হবে 2.25 times; অর্থাৎ, Answer B

32. প্রশ্নমতে, $500x = 9000 + 400x$
$\Rightarrow 100x = 9000 \Rightarrow x = 90$ অর্থাৎ, Answer D

33. এখানে, Column 1 &3 এরValue গুলো negative, এখন Columns 2 & 4 এর Value দাঁড়ায় যথাক্রমে 6^4 এবং 6^6 কারণ power গুলো even.
Greatest value হয় column 4 এ অর্থাৎ, Answer D

34. Distance travelled = speed x time
$= 54$ km/h$\times$ 5 min $= 54$ km/h $\times \frac{5}{60}$ hour $= 54 \times \frac{5}{60}$ km.
$= 4.5$ km অর্থাৎ, Answer D.

35. মনেকরি, Toll pay করে x টাকার উপর (1000 টাকার অতিরিক্ত)

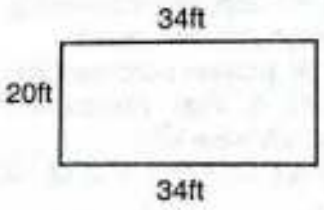
$X\times 7\% = 87.50 \Rightarrow \frac{7x}{100} = 87.50 \Rightarrow x = \frac{87.50\times 100}{7}$

$\Rightarrow x = \frac{8750}{7} \Rightarrow x = 1250$

Total value of potatoes = 1000 + 1250 (প্রথম 1000 টাকা total free)
= 2250 অর্থাৎ, Answer B

36. Rectangular garden এর Area = 680 sq. feet একটি side = 20 feet

অপরside টি = $\frac{680}{20} = 34$ feet



Mr. Rashid 20 feet unfenced রাখে।
Total fencing needed = 34 + 34 + 20 = 88 feet. অর্থাৎ, Answer D

37. ১ম ৫০% অর্থাৎ (2100 x 50%) বা 1050 টি guide এ profit
= 1050 x 15 = Tk. 15750
বাকি 1050 টি guide এ loss হয়= 1050 x 2 = Tk 2100.
Overall profit = 15750 – 2100 = Tk. 13,650
Average profit per book = $\frac{13650}{2100}$ Tk. 6.5 অর্থাৎ, Answer A.

38. Target হচ্ছে 50 million per quarter.
১ম তিন quarter এ যথাক্রমে 10,15 and 20 million sell করে। ১ম তিন quarter এ যথাক্রমে 40,35 & 30 million short থাকবে target থেকে। তাই target fulfil করার জন্য last quarter এ 50 million এর সাথে সাথে এই shortage cover করতে হবে।
Last quarter এ sales = 50 + 40 + 35 + 30 = 155 million অর্থাৎ, Answer D.
অথবা
Target হচ্ছে 50 million per quarter.
4 quarters এ মোট target sales = 4 x 50 = 200 million
last quarter এ sales = 200 – 10 – 15 – 20 = 155 million অর্থাৎ, Answer D

39. ধরলাম, Kamran's income 3x &Dolon's income 4x
আবার, Kamran's expenditure 4y &Dolon's expenditure 5y

$3x - 4y = \frac{3x}{4} \Rightarrow 3x - \frac{3x}{4} = 4y \Rightarrow 9x = 16y \Rightarrow x = \frac{16y}{9}$

এখন, Kamran's Savings $= 3x - 4y = 3\left(\frac{16y}{9}\right) - 4y = \frac{16y}{3} - 4y = \frac{16y - 12y}{3} = \frac{4y}{3}$

Dolon's savings $= 4x - 5y = 4\left(\frac{16y}{9}\right) - 5y = \frac{64y}{9} - 5y = \frac{64y - 45y}{9} = \frac{19y}{9}$

$\therefore$ Kamran's savings: Dolon's savings $= \frac{4y}{3} : \frac{19y}{9} = \frac{4y}{3} \times \frac{9}{19y} = \frac{12}{19} = 12 : 19$

$\therefore$ Answer D

40. ধরলাম, marble আছে, xটি
Capacity = x + 100

এখন, $x - \frac{x}{4} = \frac{1}{2}(x + 100)$

$\Rightarrow \frac{3x}{4} = \frac{x+100}{2} \Rightarrow 6x = 4x + 400 \Rightarrow 2x = 400 \Rightarrow$ = 200 অর্থাৎ, Answer B

41. ধরলাম, smallest size এর vase এর price x টাকা
$X + (x + 25) + (x+50) + (x+75) + (x + 100) + (x + 125) = 825$

$\Rightarrow 6x + 375 = 825 \Rightarrow 6x = 825 - 375 = 450 \Rightarrow x = \frac{450}{6} = 75$

Largest size এর vase এর price = x + 125
= 75 + 125 = 200 Taka অর্থাৎ, Answer C
অথবা
ধরলাম, smallest size এর vase এর price = a টাকা

$\therefore$ Flower vade গুলোর price এর sum $= \frac{n}{2}\{2a + (n-1)d\} = \frac{6}{2}\{2a + (6-1)25\}$

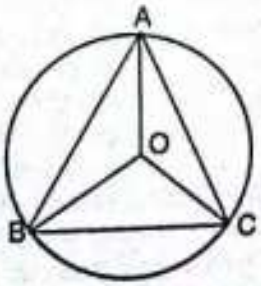
$= 3(2a + 125) = 825$

এখন, $6a + 375 = 825 \Rightarrow 6a = 825 - 375 \Rightarrow a = \frac{450}{6} = 75$

$\therefore$ Largest বা 6^{th} vase টির price $= a + (n-1)d = 75 + (6-1)25$
$= 75 + 125 = 200$ অর্থাৎ, Answer C

42. $\frac{XZ}{Y}$ এই fraction টিতে যদি X & Y উভয়কে triple করা হয়, তাহলে fraction এ কোন change হবে না। কারণ, X আছে numerator (লব) এ এবং Y আছে denominator (হর) এ, অর্থাৎ Answer E

43.



এখন, ত্রিভুজের তিন শীর্ষ A, B, C.মনেকরি কেন্দ্র O,

O, A; O, B; O,C যোগ করি, তাহলে তিনটি সমবিবাহু ত্রিভুজ পাওয়া যায়, এখানে সমবিবাহু ত্রিভুজটির সমান বাহুগুলোর দৈর্ঘ্য অন্যান্য বাহুটি $\sqrt{3}$ গুণ,

এখন, OB = OC = 2 $\therefore$ BC = $2\sqrt{3}$ $\therefore$ ΔABC এর ক্ষেত্রফল = $\frac{\sqrt{3}}{4}a^2$

= $\frac{\sqrt{3}}{4}\left(2\sqrt{3}\right)^2 = \frac{\sqrt{3}}{4}\times 4\times 3 = 3\sqrt{3}$ অর্থাৎ, Answer C.

44. এখানে, P, R যোগ করি, তাহলে Δ PRS এ RN একটি মধ্যমা। ΔNRS এর area = $\frac{1}{2}\times 4\times 2 = 4$ sq. inches এখন মধ্যমা ত্রিভুজকে সমান ক্ষেত্রফলের দুই ত্রিভুজে বিভক্ত করে।
ΔPRN এর Area = 4 sq. inches আবার একইভাবে ΔPRM এর Area = 4 sq. inches
Quadrilateral PMRN এর Area = (4+4) = 8 sq. inches অর্থাৎ, Answer A

45. মনেকরি, 3 books নেয় x জন
2 books নেয় (20−x) জন $\therefore$ 3x + 2(20 − x) = 52 $\Rightarrow$ 3x + 40 − 2x = 52
$\Rightarrow$ x = 12 অর্থাৎ, Answer D
অথবা
Elimination method এ করা যায়।
যেমন: 8 জন 3 books করে নিলে, 12 জন 2 books করে নিবে।
$\therefore$ 8×3 + 12 × 2 = 24 + 24 = 48 (বাদ)
এখানে, option D তে, 12 জন 3 books করে নিলে, 8 জন2 books করে নিবে।
$\therefore$ 12 × 3 + 8 × 2 = 36 + 16 = 52 (match করে) অর্থাৎ, Answer D

46. On the third stop the next to last person exits the bus.
So, on the 3rd stop there were 2 people
On the 2nd stop there were 2 × 2 = 4 people
On the 1st stop there were 4 × 2 = 8 people
$\therefore$ Answer C

47. মনেকরিcost of DVD alone x.
Cost of a computer without DVD (x + 19500)
Cost of a computer with DVD 29000
এখন, x + 19500 + x = 29000
$\Rightarrow$ 2x = 29000 − 19500 $\Rightarrow$ x = $\frac{9500}{2}$ = x = 4750 অর্থাৎ, Answer C

48. Retail price 40 taka (per pen) এর উপর 20% discount = 40 × $\frac{20}{100}$ = 8 taka
অর্থাৎ, প্রতি pen এsave হয় = 8 taka
Total savings = 240 taka
$\therefore$ Number of pens = $\frac{240}{8}$ = 30 pen. অর্থাৎ, Answer D.

49. মনেকরি, Total distance x km
এখন, $\frac{1}{2}x + \frac{1}{4}\left(x - \frac{x}{2}\right) + 120 = x \Rightarrow \frac{x}{2} + \frac{x}{8} + 120 = x$
$\Rightarrow x - \frac{x}{2} - \frac{x}{8} = 120 \Rightarrow \frac{8x - 4x - x}{8} = 120 \Rightarrow \frac{3x}{8} = 120$
$\Rightarrow x = \frac{120\times 8}{3} \Rightarrow x = 320$ অর্থাৎ, Answer A

Data sufficiency:

50. শুধু (i) দ্বারাও (ii) দ্বারা করা যায় না।
এখন, (ii) হতে, orange juice আছে 5 liter

(i) হতে, Apple juice add করা হয় $\left(\frac{3}{2}\times 5\right)$ liter

অর্থাৎ, (i) ও (ii) একসাথে use করে করা সম্ভব। ∴ Answer C

51. এখানে, (i) ও (ii) individually বা একসাথে যেখানে ইuse করা হোক না কেন question solve করা যায় না। অর্থাৎ, Answer E

52. এখানে, (i) হতে দেখা যায়, price of TV before discount was 25% greater than the discounted price.
এখন থেকে discount এর percentage বলা সম্ভব যার মান দাঁড়ায় 20%
∴(i) শুধু দিয়ে বলা সম্ভব।
(ii) use করে বলা সম্ভব নয়। অর্থাৎ, Answer A

53. এখানে, (i) ও (ii) এক সাথে করেও বলা সম্ভব নয়। x ও y এর যে কোনটির value 4, 3 বা −4, −3 হতে পারে। অর্থাৎ, Answer E.

54. $x^2 + 3x + c = (x + a)(x + b) = x^2 + bx + ax + ab = x^2 + (a+b)x + ab$

∴ a+ b= 3; and C = ab

(i) হতে, a = 1 হলে, $b + 1 = 3; \Rightarrow b = 2$; $c = ab = 1 \times 2 = 2$

(ii) হতে, b = 2 হলে, $a + 2 = 3; \Rightarrow a = 1$; $c = ab = 1 \times 2 = 2$

অর্থাৎ, (i) ও (ii) individually ব্যবহার করে c এর value বের করা সম্ভব। ∴Answer D

55. women: men : children = 5: 2: 7
(i) হতে, মনেকরি , Women = 5x ; men = 2x ; children = 7x
∴$5x + 7x = 12 \Rightarrow 12x = 12 \Rightarrow x = 1$
∴Total number of people = $5x + 2x + 7x = 14x = 14 \times 1 = 14$
(ii) হতে, men এর সংখ্যা হচ্ছে fewer than 4. সেক্ষেত্রে ratio তে men এর portion (2) এর সাথে match করার জন্য একমাত্র possible number হচ্ছে 2
সেক্ষেত্রে, number of men = 2 (ratio তে 2)
সেক্ষেত্রে, number of women = 5 (ratio তে 5)
সেক্ষেত্রে, number of children = 7 (ratio তে 7)
∴Total number of people = 14
∴ (i) ও (ii) individually use করে solve করা সম্ভব অর্থাৎ, Answer D

ANALYTICAL ABILITY

56. Import constraint এর কারণে domestic price বাড়তে পারে, যা economic strategy এর খারাপ দিক। অর্থাৎ, Answer C.

57. Passage থেকে infer করা যায় যে Government policy দ্বারা strong domestic industry create করা সম্ভব অর্থাৎ, Answer B

58. "on the contrary" ব্যবহারের কারণে the gap should be filled with the idea opposing the previous idea যেখানে বলা আছে "individuals are not willing to help each other". তাই, there are many occasions when we graciously offer our assistance – সঠিক উত্তর। অর্থাৎ, Answer E

59. The author's attitude towards society reflects that everyone works for their own personal gain. তাই, in order to contradict, the idea of altruism stated in the option (A), authors attitude কে most strongly weaken করে। অর্থাৎ, Answer A

60. Because of government restriction the per acre yield of winter wheat will be less than that of spring wheat. As a result, spring wheat will be more profitable যদি winter wheat এর poor harvest কে compensate করা না হয়। অর্থাৎ, Answer A

61. The per acre yield of winter wheat will decrease only because of government restrictions.তাইবলাযায়, government policy has a good amount of impact –সঠিক উত্তর। অর্থাৎ, Answer D

62. The main process of weeding machine deals with the difference in shade of color. The company, as a result, should be sure of the differentiation of shades as a favorable consideration. এখানে appropriate হচ্ছে Answer D.

63. Option: (1) It is not mentioned in the passage that only children's chairs are stuffed with industrial cotton (not necessarily true).
(2) It is said that most of them are stuffed with industrial cotton, not all (not necessarily true)
(3) It is not mentioned (not necessarily true) অর্থাৎ, Answer E
64. যেহেতু the technological advancements rapidly surpass করছে তাই competitor usually new products এর capabilities match করে if there is large profit. তাই, the first section is the appeal and the second section is the justification. অর্থাৎ, Answer B.
65. As the competitors tend to match the new products capabilities in small time, তাই charging less than the greatest price হচ্ছে best way to maximize overall profit. অর্থাৎ, Answer A
66. The role of barber is played by a male actor whereas the role of a maid servant is played by a female actor. তাই এই দুই role এ same actor পাওয়া যাবে না অর্থাৎ, Answer A
67. Rehana and Sarah cannot be on a role where they will be on the stage at the same time. যেহেতু the role of queen and the role of housewife are never played at the same time তাই Rehana queenএর role, Sarah housewife এর role এবং Tania maid servant এর role করতে পারে। অর্থাৎ, Answer A.
68. Jahangir can either be the king or soldier or the barber. যেহেতু comedian কে stage এ king, soldier and barber এর সাথে থাকতে হবে, তাই Jahangir comedian হতে পারবে না। অর্থাৎ, Answer D
69. যেহেতু queen এবং housewife বা comedian role করতে পারে তাইTania এর জন্য বাকী থাকে maid servant role অর্থাৎ, Answer D
70. (i) Daud is signaled when all four flags are raised which includes blue and yellow.
(ii) Gofur is signaled when green, blue and yellow flags are raised, which includes blue and yellow.
(iii) Hanif is signaled when blue and yellow flags are raised
তাই, i, ii,এবং iii –সঠিক উত্তর। অর্থাৎ, Answer D
71. (i) In order to signal Emran, red flag must be raised.
(ii) Gofur can be signaled without raising the red flag.
(iii) Hanif can be signaled without raising the red flag. তাই red flag raise না করলে Gofur এবং Hanif কে signal করা সম্ভব। কিন্তু এখানে বলা হয়েছে which of the following athletes are signaled অর্থাৎ, which of the following athletes must be signaled. সুতরাং Answer E
72. Only in case of Hanif blue flag is raised but not the green one. অর্থাৎ, Answer A
73. In order to signal Daud, Emran or firoz, red flag is necessary. In case of Gofur and Hanif, blue flag is necessary. তাই, blue এবং red flag দুটো একসাথে বাদ দেওয়া যাবে না। অর্থাৎ, Answer C
74. In the first sentence, distribution was outlawed and in the second sentence, the one'swho peddle their unsavory view or the distributors were called radicals and fanatics. তাই assume করা যায় যে Every person who hands out leaflets and delivers speeches is a radical or fanatic. অর্থাৎ, Answer C
75. As green light is on, cells 'A' and 'C' must be occupied. কিন্তু তার মানে এই নয় যে 'B' is unoccupied. So the red light might or might not be on; must be on বলা যায় না। অর্থাৎ, Answer B.

MBA (IBA)

Admission Test Question 2010-2011 with Solution

Total Marks: 75 + 25 = 100 Total Time: 90 (MCQ) + 30 (Written) = 120 Minutes

PART I: MULTIPLE CHOICE QUESTIONS [75 marks]

Section I: MATHEMATICS (FROM 1 TO 30)

Instructions: Solve the following problems and mark the correct answer on your Answer sheet. Figures are not drawn to scale.

1. Monwar, Jasmin and Khairul had lunch together. Khairul's meal cost 50% more than Jasmin's meal and Monwar's meal cost 5/6 as much as Khairul's meal. If Jasmin paid Tk. 1000 for his meal, what was the total amount they paid for lunch?
   A. 2833 B. 3000 C. 3500 D. 3750 E. None of these

2. Recently, Sohan's hourly wage has been increased by 10 percent. Before this increase, Sohan's total weekly wage was Taka 1370. If his weekly hours were to decrease by 10 percent from last week's total hours, what would be the change in Taka, if any, in Sohan's total weekly wage?
   A. An increase of 13.720 B. An increase of 5.5 C. No Change
   D. A decrease of 13.70 E. None of these

3. If $3 < x < 8$ and $5 < y < 11$, which of the following represents all possible values of xy?
   A. $3 < xy < 11$ B. $8 < xy < 19$ C. $15 < xy < 88$
   D. $24 < xy < 55$ E. None of these

4. Of 400 students in a graduating class, 30 percent were women and, of these, one-fifth became instructors. If the number of men who became instructors was twice the number of women who became instructors, how many of the men became instructors?
   A. 120 B. 48 C. 40 D. 24 E. None of these

5. If the radius of a cylinder is tripled while its height halved, its volume will be.
   A. halved B. unchanged C. doubled
   D. increased by 50% E. None of these

6. 70 students are enrolled in Management, Accounting and- Marketing, 40 students are in Management, 35 are in Accounting, and 30 are in Marketing. 15 students are enrolled in all three courses. How many of the students are enrolled in exactly two of the courses?
   A. 8 B. 5 C. 6 D. 9 E. None of these

7. In a survey of the people in a locality, it was found that 65% of the people surveyed watched the news on television, 40% read a newspaper, and 25% read a newspaper and watched the news on television. What percent of the people surveyed neither watched the news on television nor read a newspaper?
   A. 0 B. 5 C. 10 D. 20 E. None of these

8. A production manager has set the production rate for each worker on a job at 22 units every three hours. At this rate what is the minimum number of workers that should be put on the job if at least 90 units are to be produced per hour?
   A. 5 B. 8 C. 12 D. 13 E. None of these

9. In a room, all except 18 of the people are above 50 years of age. If 15 of the people in the room are under 50 years of age, how many people are in the room?
   A. 27 B. 30 C. 33 D. 36 E. None of these

10. Nine pieces of paper numbered consecutively from 1 to 9 are put into a box. If a piece of paper is drawn at random from the box, what is the probability that it have a number greater than 6?

A. $\frac{1}{9}$ B. $\frac{1}{3}$ C. $\frac{2}{9}$ D. $\frac{5}{9}$ E. None of these

11. Rahim averaged 70 in his first m number of exams. After taking n more exams, he had an overall average of 75. In terms of m and n, his average for the last n exams was?

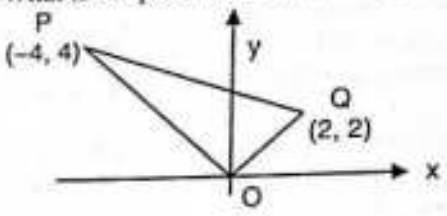
A. $(5m + 75) / n$ B. $(5m / n) + 75$ C. $(5n / m) + 75$
D. $(70m + 75n) / (m + n)$ E. None of these

12. Which of the following equals $x + xy + (x + xy) y$?

A. $x (1 + y)^2$ B. $x (2 + y + y^2)$ C. $2x (1 + y) + y$
D. $2xy (1 + y)$ E. None of these

13. In the figure below, the angle POQ is 90 degrees. What is the perimeter of the triangle OPQ?

A. $4\sqrt{2}$ B. $8\sqrt{2}$ C. $6 + 2\sqrt{5}$
D. $2\sqrt{10}$ E. None of these



14. If the value of X and Y in $\frac{XZ}{Y}$ are both tripled, how does the value of $\frac{XZ}{Y}$ change?

A. increases by half B. decreases by half e. C. triples
D. remains the same E. None of these

15. In the figure right, each of the circles has radius 4 and the area enclosed by both circles is 28π. What is the area of the shaded region?

A. 0 B. 2π C. 4π
D. $(4\pi)^2$ E. None of these

16. The length of a rectangular field X is 2 kilometers greater than the side of a square field Y and the width of the field X is 2 kilometers less than the side of field Y. If y^2 is the area of Y in square kilometers, which of the following gives the area, in square kilometers, of field X?

A. $y^2 - 4$ B. $y^2 - 2$ C. y^2 D. $y^2 + 2$ E. None of these

17. This year, a city has allotted 60 percent of its budget for school expenditures, and its budget is 15 percent higher than last year's budget of n dollars. In terms of n, how many dollars of this year's budget has the city allotted for school expenditures?

A. (0.6)(0.85n) B. (0.6)(1.15n) C. (0.6)/(1.15n)
D. 0.85n/0.6 E. None of these

18. The average of a set of 12 numbers, which includes 34, is N. If 34 is removed from the set and 38 is added to the set, what is the average of the new set of numbers?

A. $N + \frac{1}{3}$ B. $N + \frac{19}{6}$ C. $N + 4$ D. $N + 6$ E. None of these

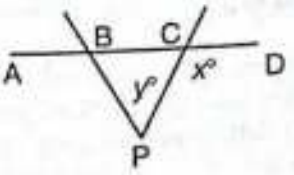
19. If the area of a rectangular is equal to the area of a square, then the perimeter of the rectangular must be –

A. half the perimeter of the square
B. equal to the perimeter of the square
C. equal to twice the perimeter of the square
D. equal to the square root of the perimeter of the square
E. None of these

20. Jasmin has 16 chips in her pocket. She has 8 red ones, 4 green ones, and 4 blue ones. What is the minimum number of chips she must take out of her pocket to ensure that she has one of each color?
A. 4 B. 8 C. 12 D. 13 E. None of these

21. Of 45 families in a locality, 25 families have working mothers and 10 families have retired individuals as members to look after the children at home. Of the families, 8 have both working mothers and retired individuals as members. How many of the families have working mothers but no retired individuals as members?
A. 0 B. 2 C. 18 D. 17 E. None of these

22. In the figure right, if CP = BP and x = 120°, then y° =?



A. 30° B. 45° C. 60°
D. 75° E. None of these

23. If $8x + 5x + 2x + 4x = 114$, then $5x + 3 = ?$
A. 12 B. 25 C. 33 D. 47 E. None of these

24. If two planes leave the same airport at 1:00 PM. how many miles apart will they be at 3:00 PM if one travels directly north at 150 mph and the other travels directly west at 200 mph?
A. 50 miles B. 100 miles C. 500 miles
D. 400 miles E. None of these

25. Two cyclists start cycling from the starting point of a trail 3 hours apart. The second cyclist travels at 10 miles per hour and starts 3 hours after the first cyclist who is traveling at 6 miles per hour. How much time will pass before the second cyclist catches up with the first from the time the second cyclist started cycling?
A. 2 hours B. $4\frac{1}{2}$ hours C. $\frac{3}{4}$ hours D. 6 hours E. None of these

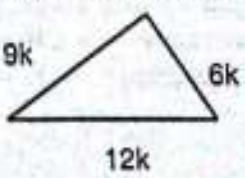
26. Ehsan can fill a pool carrying buckets of water in 30 minutes. Suman can do the same job in 45 minutes. Tonmoy can do the same job in $1\frac{1}{2}$ hours. How quickly can all three fill the pool together?
A. 12 minutes B. 15 minutes C. 21 minutes
D. 23 minutes E. None of these

27. A shop sold a pair of shoes for Tk. 1600.00 and a pair of sandals for Tk. 960.00. It made a profit of 20% on shoes and took a 10% loss on sandals. The shop made a-
A. loss of 17.8% B. loss of 15.0% C. gain of 32.0%
D. gain of 75.3% E. None of these

28. If $(x^2 - 7x + 18) = 6$, which of the following must be false?
A. $x = 4$ B. $x = -4$ C. $x \geq 3$ D. $x > 0$ E. None of these

29. There are 4 women and 4 men sitting in a waiting room for job. If two of the applicants are selected at random, what is the probability that both will be women?
A. $\frac{1}{2}$ B. $\frac{3}{7}$ C. $\frac{3}{4}$ D. $\frac{3}{14}$ E. None of these

30. In the following figure, if the length of the longest side of the following triangle is 36, what is the perimeter of the triangle?



A. 51 B. 63 C. 81
D. 108 E. None of these

SECTION II: LANGUAGE (FROM 31 TO 60)

Questions: 31 to 35
Instruction: Identify the sentence(s) that is/are showing the correct use of the underlined word.

31. (i) How would the angler know the pain of the fish when reeled
(ii) I have mistakenly left the reels at the studio.
(iii) My head was all reely with all the facts and figure.
A. i only B. Both I and ii C. Both i and iii
D. Both ii and iii E. All three sentences are correct

32. (i) You can fight all you want, but to sever the ties - that is just unthinkable!
(ii) A severance package has been prepared for the redundant employees.
(iii) One can hardly predict the severity of the crisis.
A. Both i and ii B. Both ii and iii C. i only
D. ii only E. All three sentences are correct

33. (i) You are always welcome to be resident with me.
(ii) Please ask the resident doctor to take a look at my injury.
(iii) I am most pleased to see it used as a resident house
A. Both i and ii B. Both i. and iii C. i only
D. ii only E. None of these

34. (i) He was exempt from charges by virtue of his youth.
(ii) Her handling of the crisis was quite a virtuoso performance.
(iii) Having no friend nearby during the exam, I made a virtue of necessity and answered all questions on my own.
A. Both i and iii B. Both ii and iii C. i only
D. ii only E. All three sentences are correct

35. (i) It was sly of you not to mention that you knew him from before.
(ii) It is not in you to slyly turn the conversation around.
(iii) We had no idea that Mr. Waqar had been planning this all along on the sly.
A. Both i and ii B. Both i and iii C. Both ii and iii
D. ii only E. All three sentences are correct

Questions: 36 to 45
Instruction: For each set of sentences given below, identify the word/ pair of words/ phrase/clause that correctly fills in the gap.

36. Though in acting circles he has a reputation of being a consummate professional, at times he can be quite ____ on the stage.
A.stern B. efficient C. playful D. adept E. None of these

37. I ____ you not to make your decision under these circumstances when the ____ of your decision cannot be predicted with any degree of certainty.
A. suggest, afterthought B. impede, result C. assist, outcome
D. implore, ramifications E. None of these

38. Though ____ toward his own needs, he was always ____ toward others.
A. miserly/ magnanimous B. charitable/ extravagant C. profligate/liberal
D. improvident / indifferent E. None of these

39. Children not only provide cheap labor, but they are also ____, as they do not complain about ____ chores given to them of about harsh treatment meted out.
A. impertinent/mental B. facile/ physical C. presumptuous/ rigorous
D. docile/ menial E. None of these

40. If we ____ enough money we would have bought the property.
A. had B. have had C. have been had D. were E. None of these

41. The sooner you finish your studies, ___ you will be allowed to play!
A. the faster B. quicker C. the sooner D. quickly E. None of these

42. Our school record for employability is very good: by the time, the students have completed their graduation, ____ by national and multinational companies.
A. they all have employment B. they had all been offered employment
C. all they had offered employment D. they have all been offered E. None of these

43. A series of complicated steps ____ to complete the project.
A. were needed B. are needed C. was needed
D. needed E. None of these

44. Our oldest patient is suffering from a(n) ____ disease; although growing slowly, but causing his sufferings to last long.
A. exhausting B. advanced C. insidious
D. terminal E. None of these

45. Despite its ____ and safety in treating some of the most incapacitating forms of depression and anxiety, it has not been widely _____.
A. security / renounced B. usefulness / accepted C. ineffectuality / overtaken
D. productivity/commenced E. None of these

Questions: 46 to 50

Instruction: Select the word which can replace the underlined word best.

46. Mr. Selim has decided to abnegate his family's claim on the property
A. delinquish B. renounce C. reinforce
D. delegate E. None of these

47. Everyone wanted to play an ascendant role in the meeting but none succeeded.
A. dominant B. renounce C. evasive
D. quarreling E. None of these

48. The erratic movement of the young boy has drawn attraction of other people.
A. wayward B. indecent C. naive
D. lavish E. None of these

49. The apogee of the movie was not convincing enough to create positive vive in the market
A. lexicon B. script C. composition
D. climax E. None of these

50. The parents became confirmed about their son's result having seen the somber look on his face.
A. angry B. cheerful C. satiated
D. gloomy E. None of these

Questions 51 -55:

Instruction: Read the passage below and then choose the most appropriate answer to each question on the basis of what is stated or implied in that passage.

Procrastinators are people who have a chronic habit of putting things off, usually until the last minute and sometimes until it is too late altogether. The most common reason that procrastinators themselves give for their habits, which they are usually quite willing to talk about even if not willing to change, is that they are lazy. Other typical excuses are that they are undisciplined brilliant but disorganized, or very poor at organizing their time.

Some procrastinators, however, almost against their very nature, actually get as far as ' trying to do something about their problem and seek help. Recent research with .such people seems to suggest that their difficulties are much more complex than the procrastinators themselves think. The general conclusions are that such people have a vulnerable sense of self-worth, are particularly fearful of failure, and deliberately put things off precisely so that they never leave themselves time to produce their best; work, The reason for their delaying tactics is that, since they do everything at the last moment and under pressure, the procrastinators can keep their illusion of brilliance without ever having to put it to the test.

51. All of the following ideas that appear in the passage, which do you think the author attributes most importance to?
    A. Some procrastinators seek help for 'hei problem.
    B. Procrastinators, in general, put off things deliberately so as to avoid a real test.
    C. Procrastinators usually think that they are very bad at organizing their time.
    D. Procrastinators sometimes put off things until it is too late.
    E. None of these

52. The main idea in the first paragraph is _____.
    A. The nature of procrastination
    B. the undisciplined character of procrastinators
    C. That disorganization is the procrastinator's main problem
    D. The reasons procrastinators give for their behavior
    E. None of these

53. The main idea in the second paragraph is _____.
    A. How procrastinators have an illusion of brilliance
    B. How procrastinators seek help
    C. Research findings regarding procrastinators
    D. That procrastinators leave everything until the last moment.
    E. None of these

54. A suitable title for this passage might be_____.
    A. Procrastination: Nothing but anillusion
    B. Procrastination seek: Excuses and Reality
    C.Disorganization, the True Cause of Procrastination
    D. Procrastination: Never Do Today What You Can Put Off Until Tomorrow
    E. None of these

55. With which of the following would the author be most likely to agree?
    A. Procrastinators are usually unaware of the true causes of their predicament.
    B. Laziness, lack of discipline and poor organization of time are the major causes of procrastination.
    C. One thing most procrastinators do is seek help for their problem.
    D. A procrastinator would automatically fail any real test of his brilliance.
    E. None of these

Questions 56 to 60:

Instruction: In the following section, each sentence has an underlined part. Beneath the sentence itself five ways of phrasing the underlined part are given. The first of these is a repetition of the original, the other four are different if you think the original is best choose the first answer, otherwise choose one of the others.

56. Peru has become the word's leading exporter of honey in little more than a decade, with nearly 90,000 tons a year sold to foreign markets, almost half of which going to the North America.
   A. with nearly 90,000 tons a year sold to foreign markets, almost half of which going
   B. with the sale of nearly 90,000 tons a year to foreign markets, almost half of which going
   C. with the sale to foreign markets of nearly 90,000 tons a year, and almost half of it that goes
   D. Selling nearly 90,000 tons a year to foreign markets, with almost half going
   E. None of these

57. Recently most countries impose limitations on the authority of the legislature to borrow money, with their objectives being to protect taxpayers and the credit of the state government.
   A. to borrow money, with their objectives being to protect
   B. to borrow money, the objectives of which are the protecting of
   C. to borrow money, limitations intended to protect
   D. for borrowing money, of which the objective is protecting
   E. None of these

58. Bata Shoe Company has for several years followed a policy aimed at decreasing operating costs and improving the efficiency of its distribution system.
   A. aimed at decreasing operating costs and improving
   B. aimed at the decreasing of operating costs and to improve
   C. aiming at the decreasing of operating costs and improving
   D. the aim of which is the decreasing of operating costs and improving
   E. None of these

59. The second quarter is historically weak in the textbook publishing business, because revenues are low and marketing expenses are high as companies prepare for the coming school year.
   A. low and marketing expenses are high as companies prepare
   B. low and their marketing expenses are high as they prepare
   C. low with higher marketing expenses in preparation
   D. low, while marketing expenses are higher to prepare
   E. None of these

60. The principal feature of the redesigned checks is a series of printed instructions that the company hopes will help merchants confirm a check's authenticity, which includes reminders to watch the endorsement, compare signatures and view the watermark while holding the check to the light.
   A. which includes reminders to watch the endorsement, compare signatures, and view
   B. which include reminders for watching the endorsement, to compare signatures and view
   C. including reminders to watch the endorsement, compare signatures, and view
   D. including reminders to watch the endorsement, comparing signatures and viewing
   E. None of these

SECTION III: ANALYTICAL ABILITY (FROM 61 TO 75)

Questions 61 -65

Instruction: Read the following information and choose the most appropriate answer.

Six reviewers (Rahim, karim, Bidhan, Samina. Joseph, and Jyoti) will review four books nemely Mystery, Drama, Comedy, and Tragedy according to the following conditions.

i. Each reviewer reviews exactly one book, and each book is reviewed by at least one of the six reviewers.
ii. Bidhan reviews the same book as Rahim.
iii. Jyoti reviews the same book as exactly one other reviewer.
iv. Karim reviews Mystery.
v. Samina reviews either Mystery or else Tragedy.
vi. Bidhan does not review Tragedy.

61. Which one of the following is a complete and accurate list of the books each of which could be the book that Jyoti reviews?
A.Mystery, Drama
B. Drama, Comedy
C. Mystery, Drama, Comedy, Tragedy
D. Drama, Comedy, Tragedy
E. None of the above

62. Which one of the following can be true?
A.Rahim and karim review Mystery.
B. Jyoty reviews Drama and Rahim reviews Comedy.
C. Karim and Samina review Mystery.
D. Joseph reviews Tragedy and Jyoti reviews Mystery
E. None of the above

63. Jyoti can review any of the following EXCEPT:
A. Mystery with karim
B. Mystery with Joseph
C.Drama with Joseph
D. Comedy with Joseph
E. None of these

64. If Joseph reviews the same book as exactly one other reviewer, which one of the following complete and accurate list of the books any one of which could be the book that these two reviewers review?
A.Mystery, Drama
B. Mystery, Comedy
C.Drama, Comedy
D. Mystery, Comedy, Tragedy
E. None of the above

65. If Jyoti reviews Comedy, which one of the following must be true?
A.Bidhan reviews Drama.
B. Sarnina reviews Comedy
C.Joseph reviews Mystery
D. Joseph reviews Drama
E. None of the above

Questions 66 to 70

Instruction: Answer the following questions based on the statement & the requirement of the question.

"According to a recent telephone survey of 3,000 adults, old age isn't as bad as younger people expect."

66. Which of the following cannot be necessarily concluded from the statement?
A. Those that were surveyed were truthful about their age when responding.
B. Older people are better off than younger people imagine they would be.
C. The survey of 3,000 adults included both younger and older people.
D. Young people generally expect old age to be bad.
E. None of the above

67. Which of the following statements, if true, supports the conclusion made in the statement?
A. 95 percent of those 70 years and older said their lives have turned out better/ than they expected.
B. One study found that people ages 70 to 98 regularly deal with cancer, heart disease diabetes mental health conditions or a range of other problems.
C. 85 percent of respondents ages 70 and older say they've experienced some memory loss and 70 percent are often sad or depressed.
D. There are a lot of similarities between what younger people expect will happen as they age and what really happens.
E. None of the above

68. Which of the following statements, if true, contradicts the conclusion made in the statement?
A. About eight-in-ten say they get more respect and feel less stress than when they were younger.
B. Other studies have shown that most people grow happier as they age.
C. 5% of adults ages 70 and older say their lives have turned out worse than they expected.
D. The gap in years between actual age and 'felt age' widens as people grow older, signifying that they feel relatively younger as they age.
E. None of the above

69. Which of the following if true, indicates that people will be benefited according to the statement?
A. Older people spend more time in front of the television set.
B. There have been more inter-gene rational conflicts in recent times.
C. People are now living longer than before in most countries of the world.
D. The labor force participation rate of older adults are trending downward recently.
E. None of the above

70. Which of the following, if true, would be a valid criticism of the survey?
A. The survey tried to reach out to various income groups, various geographical areas and to both the genders.
B. These survey findings come at a time when older adults account for record shares of the populations in most countries.
C. The older adults that the surveyors were unable to reach have a lower quality of life, on average, then those they did reach.
D. Apart from actual age, failing health, an inability to live independently, difficulty with movement were used as an indicators of old age.
E. None of the above

Questions 71 to 75
Instruction: Read the following paragraph to choose the most appropriate answer.

In a post flood rehabilitation program, a student leader in DUCSU is assigning oral saline making duty to volunteer students for each day, Monday through Friday, during a single week, Exactly five volunteers Julia, Kalam, Una, Meena, and Nargis -- are avilable. The student leader must assign exactly two volunteers to work each day of that week according to the following conditions.]

Each of the volunteers must at least once.
None of the volunteers can work on three consecutive days.
Kalam must work on Monday.
Meena must work on Thursday and on Friday.
Julia cannot work on any day on which kalam works.

71. Any of the following volunteers could be assigned to work on Wednesday EXCEPT.
A. Julia B. Kalam C.Lina D. Meena E.None of the above

72. If Julia is assigned to work on exactly three days of the week, those days must include.
A. Monday and Wednesday
B. Tuesday and Wednesday
C. Tuesday and Friday
D. Wednesday and Friday
E. None of the above

73. If kalam is assigned to work on exactly four days of the week, which of the following could be the pair of volunteers assigned to work on Wednesday?
A. Julia and Lina
B. Julia and Meena
C. Kalam and Lina
D. Kalam and Nargis
E. None of the above

74. If Julia is assigned to work whenever and only when Meena is assigned to work, which of the following could be true?
A. Julia is assigned to work on Monday
B. Julia is assigned to work on Wednesday.
C. Kalam is assigned to work on Friday
D. Nargis is assigned to work on Tuesday.
E. None of the above

75. If each volunteer is assigned to work exactly twice, which of the following must be true?
A. Either Julia or kalam is assigned to work on at least one of the days on which Meena is assigned to work.
B. Kalam is assigned to work on both of the days on which Lina is assigned to work.
C. Lina is assigned to work on Tuesday.
D. Lina is assigned to work on one of the days on which Kalam is assigned to work and on one of the days on which Julia is assigned to work.
E. None of the above

Part II: Writing Ability -25 Marks

Question 1: [5 marks]

Instruction: In each of the following incomplete sentences there is a word missingWrite a suitable word in the space provided at the right of each sentence to completethe meaning.

1. The committee was looking forward receiving a reply from you within last week.	
2. Mr. Rehan has been living in this locality for a long time he is supposed to know its historical background.	
3. I don't know he arrived safely last night.	
4. He did not qualify in the write exam this time next time he will.	
5. She did not attend the concert she bought two tickets	

Question 2: Logical Writing [10 marks]

WikiLeaks is an international new media non-profit organization that publishes submissions of private, secret, and classified media from anonymous news sources and news leaks in April 2010. WikiLeaks posted video from a 2007 incident in which. Iraqi civilians and journalists were killed by US forces, on website called Collateral Murder. In July of the same year, WikiLeaks released Afghan War Diary, a compilation of more than 76,900 documents about the War in Afghanistan not previously available for public review. In October 2010 the group released a package of almost 400,000 documents called the Iraq War Logs in coordination with major commercial media organizations. In November 2010, WikiLeaks began releasing U.S State department diplomatic cables.

Do you think that disclosure of information by WikiLeaks is justified to ensure the right to information or that banning such leaks is necessary for the sake of national security and international diplomacy? Justify your position.

Question 3: Thematic Writing [10 marks]

Instruction: Using the following words write a passage on a particular theme andtitle the passage.

workers	wages	economy	working-hours	import
benefits	export	unrest	way out	industry

ANSWER KEY

Section I: MATHEMATICS

1. D	2. D	3. C	4. B	5. E	6. B	7. D	8. D	9. E	10. B
11. B	12. A	13. E	14. D	15. C	16. A	17. B	18. A	19. E	20. D
21. D	22. C	23. C	24. C	25. B	26' B	27. E	28. B	29. D	30. C

SECTION II: LANGUAGE

31. B	32. E	33. D	34. E	35. E	36. C	37. D	38. A	39. D	40. E
41. C	42. A	43. C	44. C	45. B	46. B	47. A	48. A	49. D	50. D
51. B	52. D	53. C	54. B	55. A	56. D	57. E	58. A	59. A	60. C

SECTION III: ANALYTICAL ABILITY

61. C	62. B	63. B	64. C	65. A	66. A	67. A	68. E	69. C	70. C
71. D	72. C	73. A	74. D	75. A					

Solution of MBA Admission Test 2010 - 11

Section I: Mathematics (1-30)

1. Jasmin দিয়েছে 1000 Tk.; অর্থাৎ Khairul দিয়েছে 1000 + (1000 এর 50%) = 1500 Tk.

   এবং Monwar দিয়েছে $(1500 \times \frac{5}{6})$ Tk. = 1250 Tk.

   অর্থাৎ Total amount = (1000 + 1500 + 1250) Tk. = 3750

   ∴ Answer D

2. ধরি last week এর total hours $= x$

   ∴ Current " " " " $= x - x$ এর 10% $= 0.9x$

   আগে total weekly wage ছিল Tk. 1370

   ∴ per hour " " $\frac{1370}{x}$ Tk.

   10% বেড়ে গিয়ে এখন per hour wage $= \frac{1370}{x} + \frac{1370}{x}$ এর 10%

   $= \frac{1370}{x} + \frac{1370}{10x}$

   $= \frac{15070}{10x} = \frac{1507}{x}$ Tk.

   ∴ Total wage $= 9x \times \frac{1507}{x} = 1356.3$ Tk.

   অর্থাৎ Charge = Tk. 1370 - Tk. 1356.3 Tk. = Tk. 13.7

   Short Cut method: 10% increase and10% decrease এর final result = 1% decrease

   =) 1370 এর 1% = 13.7 Tk.

   ∴ Answer D

3. $3 < x < 8$ and $5 < y < 11$

   xy এর All possible values এর range $= 3 \times 5 < xy < 8 \times 11 = 15 < xy < 88$

   ∴ Answer C

4. মোট women $= 400 \times \frac{30}{100} = 120$ জন

   Instructor হয়েছে $= 120 \times \frac{1}{5} = 24$ জন

   ∴ Men instructors এর সংখ্যা $= 24 \times 2 = 48$জন

   ∴ Answer B

5. Cylinder এর volume $= \pi r^2 h$

   অর্থাৎ, radius triple করলে $3^2 = 9$ times বাড়বে এবং Height halved হলে $\frac{1}{2}$ times কমবে।

   অতএব, Volume change $= 9 \times \frac{1}{5} = 4.5$ times increase

   ∴ Answer E

6. মোট Student এর সংখ্যা 70

প্রত্যেক আলাদা আলাদা enrollment করলে 40 + 35 + 30 = 105 জন পাওয়া যায়। এই 105 সংখ্যাটি এসেছে কারণ বেশ কিছু Student 2 টি এবং কেউ 3 টি course এ enroll করেছে। অর্থাৎ যোগ করার সময় 3 টি course নিয়েছে এমন student এর সংখ্যা 3 বার calculate করা হয়েছে।

বলা আছে, 15 student 3 টি course এ enroll করেছে।

∴ 15 × 2 = 30 students কে বাদ দিলে 105 – 30 = 75 জন student এর হিসাব পাওয়া যায়।

অর্থাৎ, 75 – 70 = 5 জন student 2 টি course এ enroll করেছে।

∴ Answer B

7. Television দেখছে 65%; Newspaper পড়ছে 40%

মোট = (65 + 40)% = 105%

2 টিই করছে = 25%

অর্থাৎ, শুধু TV দেখছে বা শুধু Newspaper পড়ছে = (105 – 25)% = 80%

অতএব, কোনটিই করেনি (=100 – 80)% = 20%

∴ Answer D

8. 22 units 3 hours এ করলে per hour এ করবে $\frac{22}{3}$ units

$\frac{22}{3}$ units করতে লাগে 1 জন worker

90 " " " $\frac{3}{22} \times 90$ জন worker

$= 12.27$জন worker

অর্থাৎ, minimum 13 জন workers প্রয়োজন,

∴ Answer D

9. 50 বছর বয়সের লোকসংখ্যা (18-15) = 3 জন

50 বছর এর নিচের লোকসংখ্যা 15 জন

কিন্তু, Total লোকসংখ্যা বের করা সম্ভব নয়।

answer হওয়া উচিত 'cannot be determined' (এক্ষেত্রে এটা দেয়া না থাকায় 'E - none of these' answer দেয়া ছাড়া উপায় নেই)

∴ Answer E

10. 6 এর চেয়ে বড় কাগজ আছে ৩ টি (7, 8, 9)

অর্থাৎ, 6 এর " পাওয়ার probability = $\frac{3}{9} = \frac{1}{3}$

∴ Answer B

11. প্রথম m পরীক্ষার total $= 70m$

এবং over all total $= 75 (m + n)$

∴ n পরীক্ষার total $= 75 (m + n) - 70m$

$= 5m + 75 n$

এর average $= \frac{5m + 75n}{n} = \frac{5m}{n} + 75$

∴ Answer B

12. $x + xy + (x + xy)y$

$= x + xy + xy + xy^2 = x + 2xy + xy^2 = x(1 + 2y + y^2) = x(1+y)^2$

∴ Answer A

13. $OP = 4\sqrt{2}$ এবং $OQ = 2\sqrt{2}$

$\therefore PQ = \sqrt{(4\sqrt{2})^2 + (2\sqrt{2})^2} = \sqrt{32+8} = \sqrt{40} = \sqrt{4 \times 10} = 2\sqrt{10}$

অর্থাৎ, perimeter $= 4\sqrt{2} + 2\sqrt{2} + 2\sqrt{10}$

$\therefore$ Answer E

14. উপরে মিশ্র 3 দিয়ে গুন করলে মানের কোন পরিবর্তন হয় না।

$\therefore$ Answer D

15. Radius 4 হলে area $= 16\ \pi$

অর্থাৎ, total area $= 16\ \pi + 16\ \pi = 32\ \pi$ (এখানে shaded region কে ২ বার include করা হয়েছে)।

Enclosed area $= 28\ \pi$

অর্থাৎ, shaded region এর area $= 32\ \pi - 28\ \pi = 4\ \pi$

$\therefore$ Answer C

16. Square field y এর area y^2 হলে প্রতিটি side $= y$

অর্থাৎ, Rectangular field x এর length $= y + 2$ এবং width $= y - 2$

$\therefore$ area $= (y+2)(y-2) = y^2 - 4$

$\therefore$ Answer A

17. গতবারের বাজেট n dollars হলে এবারের বাজেট $= n + \frac{15}{100} n = 1.15\ n$

অর্থাৎ, school expenditure এ allot করা হলো $= 1.15\ n \times \frac{60}{100} = (1.15n)(0.6)$

$\therefore$ Answer B

18. Average N হলে 12 টি number এর total $= 12N$

34 বাদ দিয়ে 38 include করলে total 4 বাড়বে

অর্থাৎ, new total $= 12N + 4$ এবং new average $= \frac{12N+4}{12} = N + \frac{1}{3}$

$\therefore$ Answer A

19. একটি rectangle এবং একটি square এর area সমান হলেও তাদের perimeter এর মধ্যে ধ্রুব কোন সম্পর্ক বের করা সম্ভব নয়।

$\therefore$ Answer E

20. 16 টির মধ্যে 8 টি red, 4টি green, 4টি blue আছে।

অর্থাৎ, শেষ চারে না যাওয়া পর্যন্ত প্রতিটি color এর 1টি করে পাওয়ার নিশ্চয়তা নেই।

$\therefore$ Answer D

21. এখানে মজার ব্যাপার হচ্ছে, Total family number অর্থাৎ 45,এর কোন কাজেই আসেনা।

25 families এ working mothers আছে।

8 families এ working mothers ও retired individuals উভয়ই আছে।

অর্থাৎ, $(25 - 8) = 17$ families এ শুধু working mother আছে।

$\therefore$ Answer D

22. $X = 120°$ হলে $\angle BCP = 60°$ এবং $\angle CPB = 60°$ (যেহেতু CP = BP)

অর্থাৎ $\angle y = 180° - (60° + 60°) = 60°$

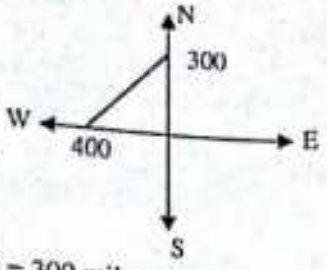
$\therefore$ Answer C

23. $19x = 114 \quad \Rightarrow x = 6$

অতএব, $5x + 3 = 5 \times 6 + 3 = 33$

$\therefore$ Answer C

24.



প্রথমটি 2 hours এ যাবে $150 \times 2 = 300$ miles
দ্বিতীয়টি 2 hours এ যাবে $200 \times 2 = 400$ miles
এখন, 2টি distance কে একটি সমকোণী ত্রিভুজে প্রতিস্থাপন করে অতিভুজ বের করলে আমরা নির্ণেয় দূরত্ব পেয়ে যাই।
3: 4: 5 ratio অনুসারে নির্ণেয় দূরত্ব 500 miles
∴ Answer C

25. প্রথম জন 3 hours এ $3 \times 6 = 18$ miles দূরত্ব অতিক্রম করবে।
ধরি, দ্বিতীয়জন x hours এ প্রথমজনকে ধরবে।
সে x hours এ যাবে $x \times 10 = 10x$ miles
এবং প্রথমজন x " " $x \times 6 = 6x$ miles
অর্থাৎ $18 + 6x = 10x \Rightarrow x = 4.5$
∴ Answer B

26. Ehsan 1 minute এ করে $\frac{1}{30}$ অংশ

Suman 1 " " " $\frac{1}{54}$ "

Tonmoy 1 " " " $\frac{1}{90}$ " $(1\frac{1}{2}\text{ hr} = 90\text{ min})$

∴তিনজন একসাথে 1 min এ করে $= \frac{1}{30} + \frac{1}{45} + \frac{1}{90} = \frac{6}{90} = \frac{1}{15}$ অংশ

এখন, $\frac{1}{15}$ অংশ করে 1 minuteএ; অর্থাৎ পুরোটা করে 15 minutes এ।
∴ Answer B

27. 20% profit এ
Selling price 120 হলে cost 100 টাকা
∴ " " 1600 " " $\frac{100\times1600}{120}$ " = 1333.33 টাকা

10% loss এ
Selling price 90 হলে cost 100 টাকা
∴ " " 960 " " $\frac{100\times9600}{90}$ " = 1066.66টাকা

মোট cost = 2400 টাকা
মোট selling price = (1600 + 960) = 2560 টাকা
∴লাভ $= \frac{2560-2400}{2400}\times100 = 6.66\% = 6\frac{2}{3}\%$
∴ Answer E

28. $x^2 - 7x + 18 = 6 \quad \Rightarrow x^2 - 7x + 12 = 0 \Rightarrow (x-3)(x-4) = 0$
অর্থাৎ $x = 3$ অথবা $x = 4$
∴ Answer B

29. প্রথমজন woman আসার probability = $\frac{4}{8} = \frac{1}{2}$

দ্বিতীয়জন woman আসার probability = $\frac{3}{7}$ (একজন woman কমে গেছে)

অতএব, পরপর 2 জন woman আসার probability = $\frac{1}{2} \times \frac{3}{7} = \frac{3}{14}$

∴ Answer D

30. Longest side যদি 36 হয় তাহলে $12k = 36 \quad \Rightarrow k = 3$

অর্থাৎ, perimeter = $9k + 6k + 12k = 27k = 81$

∴ Answer C

Section II: Language (31-60)

Question (31-35)

31. B. শুধু iii) এ reely ব্যবহার incorrect
32. E. সবগুলো ব্যবহারই correct
33. D. ii) একমাত্র correct sentence
34. E. সবগুলো ব্যবহারই correct
35. E. সবগুলো ব্যবহারই correct

Question (36-45)

36. C. Though এখানে contrasting conjunction তাই main clause এ "consummate professional" -এর contrast word " playful" হবে।
37. D. implore মানে কাউকে anxiously কোন কিছু request করা, ramifications মানে ফলাফল।
38. A. Though আছে তাই main ও sub-ordinate clause এ contrasting word বসবে।
39. D. Docile (Easy to control) হলে menial (কায়িক শ্রম) chores নিয়ে complain করবে না।
40. E. Would have আছে তাই had had হবে। Type iii conditional / Past unreal condition.
41. C. The + comparative_____ the + comparative এই pattern follow করে শুধু A এবং C, এক্ষেত্রে "Sooner" world টি "faster" চেয়ে বেশি appropriate.
42. A. General fact বলা হচ্ছে, Simple present tense হবে।
43. C. A series তাই was needed বসবে। (Subject -Verb Agreement).
44. C. Sub-Ordinate clause এর explanation insidious disease এর সাথে match করে।
45. B. Despite থাকায় দুই part এর meaning- এ contrast থাকবে। এজন্যই usefulness থাকলেও accepted হয়নি।

Question (46-50)

46. B. abnegate মানে to renounce
47. A. Ascendant (exerting power/control) role কে dominant role দিয়ে replace করা যাবে।
48. A. Erratic (Disorganized বা বিশৃঙ্খলা) কে wayward (অনিয়মিত) দিয়ে replace করা সর্বোত্তম।
49. D. Movie-র apogee কে "climax" word টি দিয়ে best replace করা যাবে।
50. D. Somber look এর best replacement হচ্ছে gloomy look.

Question (51-55)

51. B. Passage-এর প্রথম part-এ procrastinator দের excuse এবং শেষ part-এ Research finding এর মাধ্যমে এই statement টাই বেশি importance পাচ্ছে।
52. D. First paragraph টাতে মূলত procrastinator-রা নিজেদের নিয়ে যে excuse দেয় তার উপর focus করা হয়েছে।
53. C. Second paragraph.টা মূলত research finding এর উপর base করে procrastinator দের behavior analyze করে।
54. B. 1st ও 2nd Paragraph কে একত্র করলে B এর title টাই best suited.
55. A. 1st Paragraph এ excuses given by procrastinator এবং 2nd paragraph-এর research findings এটাই subscribe করে।

Question (56-60)

56. D. Main clause টা কে extend করার জন্য present participle ব্যবহার করা makes sense।অন্য option গুলোর rhetoric + grammatic construction ত্রুটিপূর্ণ।
57. E.
58. A. aimed at decreasing ..... Improving, structure টি parallel.
59. A. C এবং D construction ত্রুটিপূর্ণ এবং B তে antecedent of pronoun এ সমস্যা।
60. C. এখানে A তে subject-verb agreement এ problem (includes). B-তে parallel structure এ problem (endorsement, to compare, and view) । D -তেও same problem। correct শুধু C।

Section III: Analytical Ability (61-75)

Question (61-65)

Information গুলো থেকে আমরা যে key findings পাই তা হল
⇒B-R (Bidhan এবং Rahim same book review করে)
*K =m (Karim mystery review করে)
*S =m/t (Samina mystery/tragedy review করে)
*B ≠t (Bidhan tragedy review করেনা)

61. C. Jyoty চারটি বই এর যে কোনটি review করতে পারবে।
62. B. Jyoty Drama review করলে, আরেকজন Drama করবে। Bidhan এবং Rahim comedy করবে। সুতরাং বাকি দুইটি বই review করার জন্য দুইজন বাকি থাকবে। B can be true.
63. B. Jyoty, Joseph mystery করলেও Karim কে করতে হবে। ওদিকে Bidhan এবং Rahim একটি বই করবে। সুতরাং বাকি দু'টির জন্য মাত্র একজন বাকি থাকবে।
64. C.এখানে Mystery যদি Joseph review করে তাহলে Karim-ও করবে। Rahim ও Bidhan মিলে একটি review করবে। সুতরাং Jyoty কে একা একটি review করতে হবে। এজন্য A, B এবং D বাদ।
Joseph আরেকজনকে নিয়ে Drama এবং comedy করতে পারবে।
65. A. Jyoty +আরেকজন comedy করবে। Rahim ও Bidhan করবে Drama। সুতরাং বাকি দু'জন অন্য দু'টি বই করবে। Bidhan যদি Drama ছাড়া অন্য কিছু review করে, Jyoty-র সাথে 2nd review করার কেউ থাকবে না।

Question (66-70)

66. A. Statement থেকে B,C এবং D logically deduct/conclude করা যায়। কিন্তু A conclude করা যায় না। কারণ যাদেরকে survey করা হয়েছে তারা তাদের বয়সের ব্যাপারে সত্য বলেছে এটা mere assumption।
67. A. এটা strengthen type question. A option এখানে specific numeric data দিয়ে old age সমন্ধে previous expectation এবং actual result (যা expectation এর চেয়ে better) analyze করে statement কে support করে।
68. E. এখানে A এবং B statement কে strengthen করে C তে 5% এর result does not necessarily contradict the overall conclusion. D option irrelevant. Answer তাই E

69. C. যেহেতু মানুষ আগের চেয়ে বেশি বাঁচে এবং statement টা তে old age এর positive lifestyle নিয়ে বলা আছে সুতরাং C option টাই answer । কারণ এই মানুষগুলো benefited হবে when they grow old.

70. C. এখানে A option টা Survey-র Strength show করছে, B significance show করছে, D basically methodology show করছে। একমাত্র C true হলে survey-র credibility undermine হবে (because of misrepresentation of entire population).সুতরাং C একটা valid criticism হতে পারে।

Question (71-75)

Paragraph এবং condition গুলো থেকে key Findings গুলো হচ্ছে

Five Volunteers: Julia, Kalam, Lina, Meena,Nargis.

Five working days: Monday-Friday

- Exactly দুই জন volunteer একদিনে assigned হবে।
- Volunteers প্রত্যেকে অবশ্যই অন্তত একদিন কাজ করবে।
- Kalam অবশ্যই Monday তে কাজ করবে।
- Meena অবশ্যই Thursday এবং Friday তে কাজ করবে।
- Kalam যেদিন কাজ করবে Julia সেদিন করতে পারবে না।
- এবং কেউ পরপর তিনদিন করতে পারবে না।

Information গুলো থেকে নিচের Table টি বানানো যাবে

Monday	Tuesday	Wednesday	Thursday	Friday
Kalam			Meena	Meena

Question answer-এ যাবার আগে Table থেকে আমরা বলতে পারি Julia-Monday-তে কাজ করতে পারবে না এবং Meena-Wednesday-তে কাজ করতে পারবে না।

71. D. Meena, Wednesday-তে কাজ করতে পারবে না। কারণ consecutive তিনদিন কেউ করতে পারবে না।

72. C. Julia Monday করতে পারবে না। সুতরাং Julia তিনদিন কাজ করলে possible combination হবে Tuesday + Wednesday + Friday অথবা Tuesday এবং Friday প্রত্যেক ক্ষেত্রে থাকছে।

73. A. Kalam তিনদিন করলে কাজ করবে Monday + Tuesday + Thursday + Friday। অর্থাৎ Julia, Wednesday তে অবশ্যই কাজ করবে সুতরাং C এবং D বাদ। Meena, Wednesday তে করতে পারবে না তাই B বাদ। A হচ্ছে Answer।

74. D. এখানে শুধুমাত্র Nargis কে Tuesday তে assign করা সম্ভব, বাকিগুলো সম্ভব নয়। Julia প্রশ্নানুসারে Thursday, Friday কাজ করবে Meena-র সাথে।

A হলে condition (Kalam + Julia) violate হয়।

B হলে Julia পরপর তিনদিন হয়ে যায়।

C হলেও A এর মত Problem।

Answer তাই D।

75. A. যদি Kalam Monday-র সাথে Tuesday অথবা Wednesday করে তাহলে Julia যাবে যথাক্রমে Wednesday + Thursday /Friday অথবা Tuesday +Thursday /Friday তে কাজ করবে।

আবার Julia যদি Tuesday এবং Wednesday করে তাহলে Kalam এর duty হবে Monday +Thursday /Friday । সুতরাং A অবশ্যই সত্য। B, C, D can or cannot be true.

MBA (IBA)

Admission Test Question 2011 (June) with Solution

PART I: Multiple Choice Questions (MCQs)

Section I: Mathematics

30 questions, 30 marks

Instructions: Solve each of the following problems and mark the correct answer on your Answer Sheet. DO NOT USE A CALCULATOR. Figures are not drawn to scale.

1. If $x > 2$ and $y > -1$, then which of the following cannot be true?
(A) $x > y$ (B) $x < y$ (C) $xy < -2$ (D) $xy > 2$ (E) none of these

2. A rectangular land having an area of 320 sq meters is divided into two rectangle plots so that one of the plots has an area of 200 sq meters and a length of 20 meter. How many meters long is the other plot?
(A) 10 (B) 12 (C) 152 (D) 20 (E) none of these

3. Jamal is now 7 times as old as Jashim. If 10 years from now, he will be 3 times as old as Jashim, how old is Jamal now?
(A) 5 (B) 21 (C) 28 (D) 35 (E) none of these

4. In 2009, Aslam's salary was 25 percent higher than it was in 2008. In 2010, Aslam's salary was fixed at 110 percent of his 2008 annual salary. Aslam's salary in 2010 was what percent less than his salary in 2009?
(A) 10 (B) 12 (C) 15 (D) 20 (E) none of these

5. If $9x/5 + y = 10$, then $5x/9 = ?$
(A) $1/10+1/y$ (B) $(100 - y^2)/45$ (C) $25(10 - y)/81$ (D) $\sqrt{5}(100 - y^2)/9$ (E) none of these

6. Bottle A is 40% filled with water and bottle B is 30% filled with water. Another bottle C can be completely filled by pouring either 10% of the content of bottle A or 20% of the content of bottle B. What is the ratio of the capacity of bottle A to bottle B?
(A) 3:2 (B) 8:3 (C) 4:5 (D) 5:6 (E) none of these.

7. The number of marbles in box X is 42% of the number of marbles in box Y. The number of marbles in box Y is approximately what percent of the total number of marbles in boxes X and Y?
(A) 58 (B) 68.4 (C) 70.4 (D) 72.5 (E) 75

8. If x is the smallest positive integer such that 4410 multiplied by x is the square of an integer, then x must be
(A) 10 (B) 12 (C) 15 (D) 18 (E) none of these

9. If $x > 0.7$, which of the following could be the value of x?
(A) $\sqrt{0.49}$ (B) $\sqrt{0.7}$ (C) $(0.7)^2$ D) $(1 - \sqrt{0.2})$ (E) none of these

10. If $x + 2y = a$, and $x - 2y = b$, which of the following expressions is equal to xy?
(A) ab (B) $(a + b)/2$ (C) $(a-b)/2$ (D) $(a^2 - b^2)/4$ (E) none of these

11. A survey of x people found 60% preferred brand A. An additional y people were surveyed who all preferred brand A. Seventy percent of the total people surveyed preferred brand A. Find y in terms of x.
(A) x/3 (B) x/6 (C) x/2 (D) x/4 (E) none of these

12. Tanim's salary is 150% of Jamal's salary. Jamal's salary is 80% of Shakil's salary. What is the ratio of Shakil's salary to Tanim's salary?
(A) 5:6 (B) 5:7 (C) 5:8 (D) 6:5 E) none of these

13. Three persons X, Y, and Z, working together can do a certain job in 3 hours. If Y and Z work together, they can do the same job in 4 hours. How many hours would it take X to do the same job alone?
(A) 8 (B) 10 (C) 12 (D) 15 (E) none of these

14. In a box there are black and white marbles. If 3/4 of the white marbles is equal to 5/12 of the total marbles, what is the ratio of black marbles to white marbles in the box?
(A) 3:5 (B) 4:5 (C) 5:4 (D) 5:3 (E) none of these

15. In the sequence 1, 2, 4, 8, 16, 32, ..., each term after the first is twice the previous term. What is the sum of the 10th, 11th, and 12th terms in the sequence?
(A) 2^9 (B) $3(2^8)$ (C) $7(2^6)$ D) $3(2^6)$ (E) $7(2^9)$

16. In the following figure, O is the center of the circle. If the shaded area AOB is 2π and the radius of the circle is 4, what is the value of $\angle$ AOB in degree?
(A) 45/2 (B) 30 (C) 45
(D) 60 (E) none of these

17. What is the simple average of 3^{30}, 3^{31} and 3^{32}?
(A) 3^{31} (B) $13(3^{28})$ (C) $39(3^{29})$ (D) $16(3^{30})$ (E) none of these

18. A teacher gave the same test to three classes: *A*, *B*, and *C*. The arithmetic mean scores for the three classes were 59, 80, and 70 respectively. The ratio of the numbers of students in each class who took the test was 5 to 4 to 6, respectively. What was the average score for the three classes combined?
(A) 69 (B) 70 (C) 72 (D) 73 (E) none of these

19. Which of the following is equal to $\frac{3^{10}-3^4}{3^5-3^2}$?
(A) 3^3 (B) 3^2 (C) 3^5+3^2 (D) 3^5-3^3 (E) none of these

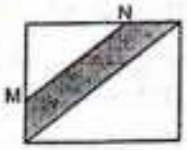
20. When an integer x is divided by 7, 7 is the quotient and 3 is the remainder. What is the remainder when x is divided by 9?
(A) 4 (B) 5 (C) 6 (D) 7 (E) none of these

21. If $4y-3x=5$, what is the smallest integer value of x for which $y>100$?
(A) 130 (B) 131 (C)132 (D) 395 (E) 396

22. If $x/y + w/z = 2$, then $(y/x + z/w) = ?$
(A) ½ (B) ¾ (C) 1 (D) 5 (E) Cannot be determined

23. Arif appeared in 9 subjects in his class exam. His score in mathematics was 2 times the average of his scores in the rest 8 subjects. If his total score was x, then what was his score in mathematics in terms of x?
(A) $\frac{1}{3}x$ (B) $\frac{1}{4}x$ (C) $\frac{1}{5}x$ (D) $\frac{1}{6}x$ (E) none of these

24. What is the perimeter of the shaded region in the following square whose length of the side is 2 and M and N are the middle points of the two sides?
(A) 3 (B) $2+3\sqrt{2}$ (C) $3+2\sqrt{2}$
(D) 5 (E) none of these



25. Let P and Q be points which are two inches apart, and let A be the area, in square inches, of a circle which passes through P and Q. Which of the following is the set of all possible values for A?
(A) $0<A$ (B) $0<A \leq \pi$ (C) $A = \pi$ (D) $A > \pi$ (E) $A \geq \pi$

26. Rita produces 2 products -chocolate cake and plain cake. Of the cakes produced last month, 3/5 were plain cakes and the rest were chocolate cakes. It takes 7/5 as many hours to make a chocolate cake as it does to make a plain cake. If last month Rita worked for a total of 58 hours, how many hours did she spend for making chocolate cakes?
(A) 26.5 (B) 28 (C) 31.50 (D) 33 (E) none of these

27. Raqib bought many books from a store. If the cost of the book 'Business Statistics" was both the 10^{th} highest cost and the 16^{th} lowest cost among the costs of the books bought, how many books did he buy?
(A) 22 (B) 23 (C) 24 (D) 25 (E) none of these

28. If x, y, z are chosen from three numbers $\frac{1}{2}$, 2 and – 3, what is the largest possible value of the expression $(x/y)z^2$?
(A) 16 (B) 32 (C) 36 (D) 39 (E) none of these

29. The average of three positive integers p, q and r is 8. If pq = 24, which of the following cannot be a value of r?
(A) 10 (B) 12 (C) 13 (D) 14 (E) none of these

30. The figure at the right consists of four semicircles in a large semicircle. If small semicircles have radii of 1, 2, 3, 4. What is the perimeter of the shaded region?
(A) 10π (B 20π (C) 40π
(D) 60π (E) none of these

End of Section I

Section II: Language 30 questions, 30 marks

Questions 31- 45:

Instructions: Replace the underlined words/phrases with appropriate **SYNONYM**provided:

31. Business in Japan is expected to pick up, although the effects of the earthquake and resulting tsunami would be felt for a long time.
(A) learn (B) surprise (C) drop (D) collect (E) none of these

32. They warn that the progress is not yet irreversible and could be jeopardized by too precipitate a withdrawal.
(A) endangered; condensed (B) improved; sharp
(C) put at risk; hasty (D) exposed; narrow (E) none of the above

33. "Reprofiling" is when creditors agree to a voluntary extension of the maturity of their bonds.
(A) deliberate (B) unpaid (C) professional (D) automatic (E) none these

34. Not only are they not subsiding, the protests are spreading and intensifying.
(A) surrendering (B) hiding (C) obeying (D) abating (E) assisting

35. The need to come up with a new economic plan for Greece is mounting.
(A) ascending (B) riding (C) intensifying (D) scaling (E) none of these

Questions 36-39:

Instructions: A related (capital lettered) pair of words is followed by five pair of words. Select the words that BEST **express a relationship similar to** that expressed in the original pair of words.

36. **SKILL: PRACTICE**
(A) Armaments: Defense (B) Knowledge: Research (C) Pages: Book
(D) Challenge: Chess (E) Literature: Arts

37. **AVERSION: FONDNESS**
(A) Equivalence: Compensation (B) Tantamount: Dearness (C) Hammer: Blacksmith
(D) Apathy: Desire (E) Execrable: Foul

38. **VARIABLE: EQUATION**
(A) Oxygen: Water (B) Paramecia: Amoeba (C) Analysis: Summary
(D) Artist: Sculpture (E) Furnace: Heat

39. **BOOK: KNOWLEDGE**
(A) Circle: Geometry (B) Paramecia: Amoeba (C) Computer: Laptop
(D) Flock: Birds (E) Optical Disk: Data

Questions 40-45:
Instructions: Fill in the gaps with appropriate word(s).

40. The current Serbian strategy for _____ the fugitives is comprehensively failing.
(A) reconciling (B) transforming (C)apprehensive (D) integrating(E) none of these

41. The law seeks to _____ millions of acres of land to its rightful owners.
(A) snatch (B) expose (C) devoid (D) restore (E) None of these

42. Although its publicity has been _____ the film "Freedom" itself is intelligent, well-acted, efficiently produced and altogether _____.
(A) tasteless.... respectable (B) extensive.... moderate
(C) sophisticated... amateur (D) danger... perfect (E) none of these

43. The director's _____ from fiscal _____ has led the company to bankruptcy.
(A) devotion—prudence (B) dislike—debt (C) avoidance—propensity
(D) retreat—responsibility (E) gratitude—management

44. The teacher accused me of ____because my essay was so similar to that of another student.
(A) procrastination (B) plagiarism (C) celerity (D) confusion (E) decorum

45. Corruption _____ images of shadowy deals among lobbyists, corporations and crooked government officials.
(A) illuminates (B) eradicates (C) conjures (D) renegades (E) none of these

Questions 46- 48:

Instructions: Underlined parts of the following sentences may contain error(s) in grammar, diction, usage or idiom. Choose the underlined portion that is incorrect. If there is no error, then select E.

46. The office memoranda was (A) circulated, but nobody (B) responded; hence, few supplies (C) were ordered. No error (D) (E)

47. Since (A) we are living (B) in Dhaka city for (C) last five years, we are reluctantto (D) move to another city. No error (E)

48. Both (A) of the debate teams must participatein (B) order toinfuse (C) (D) the school of business with team spirit. No error (E)

Questions 49-51:

Instructions: Each sentence is followed by five alternative versions of the underlined portion. Select the BEST alternative. Answer (A) is always the same as the underlined portion.

49. At first meeting with the lawyer, the lawyer seemed indecisive.
(A) At first meeting with the lawyer, the lawyer seemed indecisive.
(B) At first meeting the lawyer seems indecision.
(C) At first meeting, the lawyer seemed indecisive.
(D) At first meeting he seemed an indecisive lawyer.
(E) At first meeting the lawyer, he seems indecisive.

50. If the majority of your opponents have control, you may become defeated.
(A) If the majority of your opponents have control, you may become defeated.
(B) If the majority of your opponents take control, you may lose.
(C) If the majority of your opponents assumes control, you may see defeat.
(D) Most of your opponents will have controlled you may lose.
(E) If the majority of your opponents has control, you may lose.

51. He was more annoyed than we were by the boy's behavior.
(A) more annoyed than we were (B) more annoyed than us
(C) more annoyed then us (D) more annoyed than we are
(E) more annoyed than we

Questions 52 - 55 :

Instructions: Choose the most appropriate **ANTONYMs** to the words in capital letters:

52. **LACKLUSTER**
(A) Despondent (B) Lively (C) Gigantic (D) Adroit (E) Tepid

53. **SQUANDER**
(A) Despise (B) Annul (C) Save (D) Rebuke (E) Wither

54. **PLACATE**
(A) Pacify (B) Ameliorate (C) Enrage (D) Dais (E) Occupy

55. **CALLOW**
(A) Mature (B) Mammoth (C) Melodious (D) Excessive (E) Ornate

Questions 56- 60:

Instructions: Read the following passage and select the best answer for each of the question that follows.

In May 2010, following a landmark decade-long study undertaken by teams in 13 countries, International Agency for Research on Cancer (IARC) reported that no adverse health effects could be associated with the use of mobile phones. Indeed, the group went so far as to highlight the biggest risk to mobile phone users as being, not brain cancer, but road-traffic injuries caused by talking while driving. As for the heating effects of radio waves, the increase in temperature of the skin caused by holding a mobile phone close to the ear was found to be an order of magnitude less than that caused by being exposed to direct sunlight.

The Group 2B classification the IARC has now adopted for mobile phones refers to "possible", not "probable" (Group 2A) nor "proven" (Group 1), carcinogens - and ranks the mobile phone's health risk alongside the chance of getting cancer from coffee, petrol fumes and surgical implants such as stents and false teeth. In other words, pretty small and, even if such effects were ever detected, nothing to get hysterical about.

Indeed, by classifying mobile phones as a" Group 2B risk, what the IARC was effectively saying (and the California Council on Science and Technology implying) was that, even if such a health risk exists, there is no way of ruling out bias, chance or other confounding circumstance with any reasonable degree of confidence. So, to hedge bets, protect careers, and guarantee future funding, the obvious thing to suggest is yet more research on the long-term, heavy use of mobile phones. The most likely result, given the nature of the problem, is that the conclusion will be equally inconclusive.

56. The main premise of the article is:
(A) snatch Mobile phones may cause cancer, but in all likelihood it is a different type of a carcinogen compared to other radio wave emitting devices.
(B) Mobile phones may cause cancer, however the use of mobile phones have not been conclusively linked to significant health risks.
(C) Mobile phones pose no threat of cancer to the user and may be considered as safe as consuming coffee or inhaling petrol fumes.
(D) There needs to be more research conducted on mobile phones use and health risks other than cancer.
(E) Road accidents are riskier than cancer, specifically when using mobile phones.

57. The author of the article would, in all likelihood:
(A) Find brain cancer developing from mobile phone use highly likely.
(B) Be a social scientist with a degree in statistics.
(C) Drink less coffee than he would use mobile phones.
(D) Get hysterical about the minor effects of mobile phone use.
(E) Be more concerned about getting into an auto accident with someone who was talking on the phone while driving.

58. The tone of the concluding statements of the article can best be described as:
(A) Uncertain (B) Creative (C) Decisive (D) Demanding (E) Sarcastic

59. The mention of the California Council on Science and Technology in the third paragraph indicates that:
(A) The Council was negating the findings of the IARC research.
(B) The Council was indecisive about the direction of study regarding mobile phone use and related cancer risk.
(C) The Council was pressurizing the IARC to publish their results even earlier.
(D) The Council was suggesting along the same line as the IARC.
(E) The Council and the IARC are essentially the same organization.

60. All of the following concerns of mobile phone use have been addressed in the referenced IARC study, except:
(A) The chance of road accidents caused by talking on mobile phones while driving.
(B) The risk of medical implants causing cancer to humans.
(C) The risk of brain cancer developing from radio waves emitted by mobile phones.
(D) The heating effects of radio waves from mobile phones on the human skin.
(E) The chance occurrence of brain cancer being attributed to mobile phone uses even though something else may have caused it in some cases.

Section III: Analytical Ability — 15 questions, 15 marks

Questions 61 -66:

At IBA we have exactly seven administrative officers — N, P, Q, R, S, T, and U. An officer can pass along any memo written by that officer as well as any memo received from others, but only according to specific rules:

- Memo can be passed in either direction between P and Q, in either direction between R and U, and in either direction between S and T.
- Memo can be passed from N to S, from Q to R, from S to P, from U to N, and from U to Q.

61. Which of the seven officers can pass memo directly to the greatest number of officers?
(A) U (B) Q (C) R (D) S (E) N

62. A memo from Q that eventually reaches T must have been passed to all of the following officers EXCEPT
(A) N (B) P (C) R (D) S (E) U

63. A memo can travel along two alternative routes that have no officers in common except the writer and the final recipient if the writer and the final recipient, respectively, are
(A) P and R (B) P and T (C) Q and T (D) S and U (E) U and P

64. If a memo written by P is to reach S. and is to be passed to no more officers than necessary, it must be passed to a total of how many officers other than P and S?
(A)1 (B)2 (C)3 (D)4 (E) 5

65. If R is absent from the office for a day, it is still possible for a memo to be passed on that day all the way along a route from
(A) N to Q (B) P to S (C) P to U (D) Q to S (E) T to U

66. If S is absent from the office for a day, which of the following officers CANNOT receive any memo from any other officer on that day?
(A) N (B) P (C) Q (D) R (E) T

67. In a recent year Thakurgaon produced an orange crop equal to only seventy-six percent of Sylhet's orange crop. However, when citrus crops as a group, including oranges, were compared, the Thakurgaon crop was twenty-three percent greater than Sylhet's crop for the same year. If the information above is true which of the following can properly be concluded about the Sylhet and Thakurgaon citrus crops in the year mentioned?
(A) Sylhet's climate was suited only to growing oranges.
(B) Sylhet produced larger oranges than Thakurgaon did.
(C) Thakurgaon produced more oranges than it did non-orange citrus.
(D) Thakurgaon's proportion of non-orange citrus crops was higher than Sylhet's.
(E) Thakurgaon had more acreage that could be devoted to agriculture than did Sylhet.

68. A researcher has concluded that women are just as capable as men in math but their skills are not developed because society expects them to develop other and more diverse abilities. Which of the following is a basic assumption of the researcher?
(A) Ability in math is more important than ability in more diverse subjects.
(B) Ability in math is less important than ability in more diverse subjects.
(C) Women and men should be equally capable in math.
(D) Women might be more capable than men in math.
(E) Women tend to conform to social expectations.

69. Consumers are not as easily manipulated as they are often painted. They may know what they want, and what they want may be greatly different from what other people believe they need.
Which of the following statements, if true, most weakens the above argument?
(A) Most people continue to buy the same brand of a product year after year.
(B) Companies that advertise the most sell the most products.
(C) Store shelves packed with a variety of brands have the potential to confuse the customers.
(D) Most consumers know which brand they are going to buy before entering a store.
(E) People who shop with others rarely argue with their companions.

Questions 70-71:

"On the whole," Ms. Mahjabeen remarked, "MBA students are lazier now than they used to be. I know because fewer and fewer of my students regularly do the work they are assigned."

70. The conclusion drawn above depends on which of the following assumptions?
(A) MBA students are working less because, in a booming market, they are spending more and more time investigating different job opportunities.
(B) MBA students should work harder than students in less demanding fields.
(C) Whether or not students do the work they are assigned is a good indication of how lazy they are.
(D) Ms. Mahjabeen's students are doing less work because Ms. Mahjabeen is not as effective a teacher as she once was.
(E) Laziness is something most people do not outgrow.

71. Which of the following identifies a flaw in Ms. Mahjabeen's reasoning?
(A) Plenty of people besides MBA students do not work as hard as they should.
(B) Ms. Mahjabeen does not consider the excuses her students may have for being lazy.
(C) The argument does not propose any constructive solutions to the problem it identifies.
(D) The argument assumes that Ms. Mahjabeen's students are representative of MBA students in general.
(E) Ms. Mahjabeen does not seem sympathetic to the problems of her students.

Questions 72- 75:

Karim, Liza, Mita, Nader, Pintu, Qazi, Rana, Sony, Tushar and Wahed are the only ten members of consumer banking division of a bank. There is a proposal to form a team from within the members of the division, subject to the following conditions:

- A team must include exactly one among Pintu, Rana, and Sony.
- A team must include either Mita or Qazi, but not both.
- If a team includes Karim, then it must also include Liza, and vice versa.
- If a team includes one among Sony, Tushar, and Wahed, then it must also include the other two.
- Liza and Nader cannot be members of the same team.
- Liza and Tushar cannot be members of the same team.

The size of a team is defined as the number of members in the team.

72. What would be the size of the largest possible team?
(A) 4 (B) 5 (C) 6 (D) 7 (E) None of these

73. What could be the size of team that includes Karim?
(A) only 2 (B) 3 or 4 (C) 2 or 3 (D) only 4 (E) None of these

74. Who cannot be a member of a team of size 3?
(A) Liza (B) Qazi (C) Nader (D) Mita (E) None of these

75. Who can be a member of a team of size 5?
(A) Rana (B) Liza (C) Mita (D) Pintu (E) None of these

PART II: Writing Ability	**20 marks**

A. Now-a-days Rickshaws can be seen plying on some streets of cities like London and New York. Write in your own words in favor or against introducing Rickshaws in such cities of developed countries. [10]

B. Write an essay with an appropriate title using as many words/phrases as possible from the list below. Underline the words/phrases where used. You may use a single word/phrase more than once. You may use more than one word/phrase in a sentence. [10]

You may use the given words in their various forms. You may write necessary sentences without the given words.

violence	conviction	women's right	unreported	repercussion
empower	patriarchal society	social mindset	exemplary punishment	domestic

ANSWER KEY

Section I: Mathematics

1. E	2. B	3. D	4. B	5. C	6. A	7. C	8. A	9. B	10. E
11. A	12. A	13. C	14. B	15. E	16. C	17. E	18. A	19. C	20. D
21. C	22. E	23. C	24. B	25. E	26. B	27. D	28. C	29. B	30. B

Section II: Language

31. E	32. C	33. A	34. D	35. C	36. B	37. D	38. A	39. E	40. A
41. D	42. A	43. D	44. B	45. C	46. A	47. B	48. E	49. C	50. B
51. E	52. B	53. C	54. C	55. A	56. B	57. E	58. A	59. D	60. E

Section III: Analytical Ability

61. A	62. B	63. E	64. D	65. A	66. E	67. D	68. E	69. B	70. C
71. D	72. B	73. D	74. A	75. C					

Solution of MBA Admission Test 2011 (June)

Section I: Mathematics

1. (E) যদি, $x = 3$ and $y = 0$ হয়, $x > y$
   $x = 3$ and $y = 5$ হলে, $x < y$
   $x = 10$ and $y = -0.5$ হলে, $xy = -5$, which is less than -2
   $x = 3$ and $y = 5$ হলে, $xy = 15$, which is greater than 2
   Therefore, সবগুলোই হতে পারে

2. (B) একটি plot - এর area = 200 sq. m. এবং length = 20 meters
   Therefore, breadth = 10 meters
   So, অন্য plot-টির breadth = 10 meters এবং area = (320–200) or 120 sq. m.
   অন্য plot-টির length = (120/10) = 12 meters

3. (D) Jamal = 7 × Jashim
   After 10 years, (Jamal + 10) = 3(Jashim + 10)
   $\Rightarrow 7 \times \text{Jashim} + 10 = 3 \times \text{Jashim} + 30$
   $\Rightarrow$ Jashim = 5 years
   Jamal's present age = $5 \times 7 = 35$ years

4. (B) ধরেকরি, Aslam's salary in 2008 = 100
   So, Aslam's salary in 2009 = $100 \times 1.25 = 125$
   And, Aslam's salary in 2010 = $100 \times 1.1 = 110$
   Therefore, percentage decrease = $(15/125) \times 100 = 12\%$

5. (C) $(9x/5) + y = 10$
   $\Rightarrow x = 5(10 - y)/9$
   $\Rightarrow 5x/9 = 25(10 - y)/81$

6. (A) ধরেকরি, Bottle A -এর capacity = x. So, amount of water = 0.4x
   Bottle B -এর capacity = y. So, amount of water = 0.3y
   Now, $0.1 \times 0.4x = 0.2 \times 0.3y$
   $\Rightarrow x/y = 3/2$

7. (C) মনেকরি, Box 'Y' -এ marbles আছে y
Therefore, Box 'X' -এ আছে 0.42y
So, percentage of marbles in Box 'Y' out of total = $y/(y + 0.42y) \times 100 = 70.4\%$

8. (A) 4410x is the square of an integer.
Now, $4410 = 2 \times 5 \times 3 \times 3 \times 7 \times 7$
এখানে 2 এবং 5 এর কোনো জোড়া নেই
Therefore, x এর smallest value $= 2 \times 5 = 10$

9. (B) $\sqrt{0.7} = 0.83$
Value increases when square-root operation is applied to any fraction less than 1.

10. (E) $x + 2y = a$, and $x - 2y = b$
Now, $(x+2y)^2 - (x - 2y)^2 = a^2 - b^2$
$\Rightarrow x^2 + 4xy + 4y^2 - x^2 + 4xy - 4y^2 = a^2 - b^2$
$\Rightarrow 8xy = a^2 - b^2$
$\Rightarrow xy = (a^2 - b^2)/8$

11. (A) প্রথম survey থেকে পাই, '0.6x' people 'A' prefer করে এবং দ্বিতীয় survey থেকে পাই y people 'A' prefer করে
According to the question,
$(0.6x + y) = 0.7 (x + y)$
$\Rightarrow 0.6x + y = 0.7x + 0.7y$
$\Rightarrow 0.1x = 0.3y$
$\Rightarrow y = x/3$

12. (A) $T = 1.5 J$
$J = 0.8S \Rightarrow S = 1.25J$
Therefore, $S/T = 1.25J/1.5J$
i.e. S:T = 5:6

13. (C) x, y এবং z একত্রে 1 hour এ করে $\frac{1}{3}$ part of the work
y এবং z একত্রে 1 hour এ করে $\frac{1}{4}$ part of the work
Therefore, x একা 1 hour এ করে (1/3 – 1/4) = 1/12 part of the work
So, পুরো কাজ করতে x এর লাগে 12 hours

14. (B) 3/4 × white = 5/12 × (black +white)
$\Rightarrow$ 36 white = 20 black + 20 white
$\Rightarrow$ 16 white = 20 black
$\Rightarrow$ black/white = 4/5

15. (E) 10^{th} Term $= 2^9$ [n^{th} Term $= 2^{(n-1)}$]
11th Term $= 2^{10}$
12th Term $= 2^{11}$
Now, sum $= 2^9 + 2^{10} + 2^{11} = 2^9(1 + 2 + 4) = 7(2^9)$

16. (C) We know, Area of a sector $= \pi r^2$ (Angle at the center/360)
So, $\pi r^2 \times (\angle AOB/360) = 2\pi$
$\Rightarrow \pi(4)^2 \times (\angle AOB/360) = 2\pi$
$\Rightarrow \angle AOB = 45°$

17. (E) $\frac{3^{30}+3^{31}+3^{32}}{3}=\frac{3^{30}}{3}+\frac{3^{31}}{3}+\frac{3^{32}}{3}=3^{29}+3^{30}+3^{31}=3^{29}(1+3+9)=13(3^{29})$

18. (A) Average score (Weighted average) = $(59\times5+80\times4+70\times6)/(5+4+6)=69$

19. (C) $\frac{3^{10}-3^4}{3^5-3^2}=\frac{3^4(3^6-1)}{3^2(3^3-1)}=\frac{3^4(3^3-1)(3^3+1)}{3^2(3^3-1)}$

$=3^2(3^3+1)=3^5+3^2$

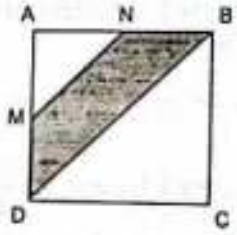
20. (D) $x=7\times7+3=52$
When 52 is divided by 9, the remainder is 7.

21. (C) $4y-3x=5$
$\Rightarrow 4y=5+3x$
$\Rightarrow y=(5+3x)/4$
Now, $(5+3x)/4>100$
$\Rightarrow 5+3x>400$
$\Rightarrow 3x>395$
$\Rightarrow x>131.67$
Therefore, smallest integer value of $x=132$

22. (E) $(x/y)+(w/z)=2$
However, the value of "$(y/x)+(z/w)$" cannot be determined from this data

23. (C) Let, the average score in the remaining 8 subjects = y (without mathematics)
Therefore, total score in 8 subjects = 8y
Score in mathematics = 2y
Now, $10y=x$
So, $2y=x/5$

24. (B) $BN=MD=1$
$MN=\sqrt{2}\times AN=\sqrt{2}$
$BD=\sqrt{2}\times AB=2\sqrt{2}$
Therefore, perimeter $=1+1+\sqrt{2}+2\sqrt{2}$
$=2+3\sqrt{2}$



25. (E) When PQ is the diameter, the area of the circle is the smallest. As the radius is 1 (diameter PQ = 2), the smallest area would be $\pi(1)^2=\pi$.
And the area can be equal to or greater than this.
So, $A\geq\pi$

26. (B) Here, the number of plain cakes : chocolate cakes = 3:2
And, the ratio of the time per plain cakes: per chocolate cakes = 5:7
Therefore, ratio of time spent for plain cakes: chocolate cakes= $(3\times5):(2\times7)=15:14$
So time spent for chocolate cakes = $\frac{14}{29}\times58=28$

27. (D) 10th highest cost = 16th lowest cost
'Business Statistics' - এর চেয়ে দামি বইয়ের সংখ্যা = 9
and 'Business Statistics' - এর চেয়ে কম দামি বইয়ের সংখ্যা = 15
Therefore, total number of books = 15 + 9 + 1 = 25

28. (C) যখন, $x = 2$, $y = \frac{1}{2}$, এবং $z = (-3)$, the value is largest.
$(x/y)\, z^2 = 36$

29. (B) $p + q + r = 24$
$pq = 24$

[Where, $p = 2, q = 12$ or $p = 3, q = 8$ or $p = 4, q = 6$
And $p + q = 14$ or $p + q = 11$ or $p + q = 10$
And $r = 10$ or $r = 13$ or $r = 14$]
Therefore, $r \neq 12$

30. (B) Perimeter of the shaded region = sum of the length of the curved path of the four small semicircles (radius = 1, 2, 3, and 4) + that of the largest semicircle (radius = 10)
Therefore, perimeter = $(1 + 2 + 3 + 4 + 10)\, \pi = 20\, \pi$

Section II: Language and Communication

31. (E) 'pick up' অর্থ 'বৃদ্ধি পাওয়া' (speed up, accelerate)

32. (C) jeopardize = বিপন্ন করা/ ঝুঁকিগ্রস্ত করা (=put at risk); precipitate = তাড়াহুড়ো করা (= hasty)

33. (A) voluntary = স্বেচ্ছাপ্রণোদিত / ইচ্ছাকৃত, (= deliberate), এখানে deliberateটাই বেশি যৌক্তিক।

34. (D) subside = থিতিয়ে পড়া / প্রশমিত হওয়া (= abating)

35. (C) mounting = বৃদ্ধি পাওয়া (= intensifying), এখানে 'ascending' এর চেয়ে 'intensifying' টাই বেশি যৌক্তিক।

36. (B) Practice করলে Skill বৃদ্ধি পায়, আর Research করলে Knowledge বৃদ্ধি পায়।

37. (D) এখানে relation টা antonymous. Aversion (বিরুপতা/অনীহা) এর opposite Fondness (পছন্দ/আসক্তি), Apathy (কৌতূহলশূন্যতা এর opposite Desire (আকাঙ্ক্ষা)

38. (A) Variable, Equation এর element (উপাদান), আর Oxygen, Water এর element.

39. (E) Book is the source of Knowledge; Optical disk is the source of Data.

40. (A) reconciling হবে। Preposition 'for' এর পর verb থাকলে verb এর সাথে '-ing' বসে। এখানে reconciling (মীমাংসা করা) ই বেশি উপযুক্ত।
Sentence টির অর্থ হচ্ছে : পলায়নপর আসামীদের ব্যাপার মীমাংসা করার (reconciling) জন্য চলতি সার্বিয়ান কৌশলটি সম্পূর্ণরূপে ব্যর্থ হচ্ছে।

41. (D) Sentenceটির অর্থ হচ্ছে : আইনটি মিলিয়ন একর জমি তাদের বৈধ মালিকদেরকে প্রত্যার্পণ (= restore) করার চেষ্টা করছে।

42. (A) tasteless (আকর্ষণহীন / নিরস), respectable (সম্মানযোগ্য)।
Sentenceটির অর্থ হচ্ছে : যদিও প্রচারণায় আকর্ষনীয় নয় (tasteless), চলচ্চিত্র হিসেবেই "Freedom" চমৎকার, সু-অভিনীত, দক্ষভাবে প্রযোজিত এবং সব মিলিয়ে সম্মানযোগ্য।

43. (D) retreat (পশ্চাদপসরণ)....responsibility (দায়)।
Sentence টির অর্থ হচ্ছে ঃ পরিচালকের আর্থিক দায় (responsibility) হতে পশ্চাদপসরণ (retreat) প্রতিষ্ঠানটিকে দেউলিয়া করেছে।

44. (B) plagiarism (অন্যের লেখা চুরি / নকল।)
Sentenceটির অর্থ হচ্ছে ঃ শিক্ষক আমাকে plagiarismএর দায়ে অভিযুক্ত করলেন কারণ আমার রচনাটি অন্য আরেকজন ছাত্রের রচনার সাথে মিলে গিয়েছিল।

45. (C) conjures up (উদ্রেক করা / খটানো)
Sentenceটির অর্থ হচ্ছে দুর্নীতি মধ্যস্থতাকারীদের, কর্পোরেশনগুলোর এবং অসৎ সরকারী কর্মচারীদের মধ্যে রহস্যময় চুক্তির চিত্র উদ্রেক করে corruption.

46. (A) 'memoranda' plural (এর singular 'memorandum'), তাই was এর স্থলে were হবে।

47. (B) Sentence টি Present perfect continuous tense এর structure অনুসরন করবে।'are living'এর স্থলে 'have been living' হবে।

48. (E) No error.

49. (C) A তে 'lawyer' repeat করা অপ্রয়োজন, B তে tense এ problem, D তে At first meeting এর পর comma প্রয়োজন, E তে meeting এর পর with বসাতে হবে। seems এর স্থলে seemed বসালে সঠিক হতো।∴C is the answer.

50. (B) Structure টা হলো 'the majority of'এর পর subject plural থাকলে verb ও plural বসাতে হয়। A, C, D এবং E এর sentence structure সঠিক নয়।

51. (E) A, B, এবং C তে comparison illogical। D তে tense এ problem, দুই জায়গাতেই pasttense হতে হবে। We এর পর were এর প্রয়োজন নেই। SoE is the answer.

52. (B) Lackluster (নিষ্প্রভ) এর opposite হলো Lively (প্রাণবন্ত)

53. (C) Squander (ব্যয় করা) এর opposite হলো Save (সঞ্চয় করা)।

54. (C) Placate (শান্ত করা) এর opposite হলো Enrage (খেপিয়ে তোলা) ।

55. (A) Callow (অপরিপক্ক) এর opposite হলো Mature (পরিপক্ক)

56. (B) এই question টির answer করার জন্য পুরো article টি একবার ভালো করে পড়তে হবে। 1st paragraph এ IARC র কথা বলা হয়েছে যে তারা mobile phoneএ কোন স্বাস্থ্য ঝুঁকি পায়নি।, 2nd paragraph ও 3rd paragraph এ cancer এর কথা উড়িয়ে দেয়া হয়নি এবং আরো দীর্ঘমেয়াদী গবেষণার প্রয়োজনীয়তার কথা বলা হয়েছে। সুতরাং C হবে না; Aএর কথা article টির কোথাও বলা হয়নি; D এবং E article টির main premise না। B is the best answer.

57. (E) A- author বলেনি। B, C সম্পর্কে কোন strong hints পাওয়া যায় না। D এর ব্যাপারে 2nd paragraph এর last lineএ খেয়াল করলে দেখা যায় author নিজেই বলছেন যে,"nothing to get hysterical about". 1st paragraph এর 4th& 5th line এ দেখা যায় author E এর sentence টিই বলছেন।∴Eis the answer.

58. (A) Uncertain. কারণ, article টির concludingstatement, lastparagraph এর lastsentence এ। Author এর মতে, conclusion টা inconclusive (অনিশ্চিত)।∴ Answer is A.

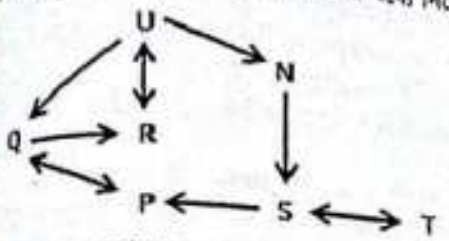
59. (D) 3rd paragraph এ bracket এর ভেতরে এ' California Council on Science and Technology'-এর কথা বলা আছে, আর তা দেখেই বোঝা যায় যে তারা same lineএ যুগপৎভাবে same suggestion ই দিচ্ছে।∴ Answer is D.

60. (E) Aএর ব্যাপারে বলা আছে 1st paragraph এর 4th lineএ; B এর ব্যাপারে বলা আছে 2nd paragraph এর 3rd & 4th line এ; D এর ব্যাপারে বলা আছে 1st paragraph এর 5th & 6th line এ; Cএর ব্যাপারে বলা আছে 1st paragraph এর last 3 linesএ,E এর ব্যাপারে সরাসরি কোথাও বলা নাই।∴Eis the answer.

Section III: Analytical

Question 61-66

N, P, Q, R, S, T, U –এই সাত জনের মধ্যে নিম্নোক্ত উপায়ে memopass করা যায়।



61. (A) শুধু U-ই 3 জনকে directly pass করতে পারে (Q, R and N)

62. (B) Q থেকে T তে যাবার রাস্তা হল
Q → R → U → N → S → T[P কে pass করা লাগেনা]

63. (E) Option (a), (b), (c) এবং (d)এর ক্ষেত্রে 2- টি আলাদা route হয়না। U থেকে P তে যাবার 2 টি route হল:
(1)U → Q → P এবং
(2)U → N → S → P

64. (D) P থেকে S এ যাবার shortest path হল:
P → Q → R → U → N → S
Therefore, the memo must be passed through 4 officers [Other than P and S]

65. (A)N থেকে Q– তে যাবার path হল N → S → P → Q যেখানে R- কে লাগেনা।

66. (E)T থেকে শুধুমাত্র S- এর connection আছে। তাই, S যদি absent থাকে, T কোনো memo receive করতে পারবে না।

67. (D) Question stem টি মনোযোগ দিয়ে পড়লে বুঝা যাবে। যদিও Thakurgaonএর orange crop Sylhetএর orange crop থেকে কম, Thakurgaon এর citrus crops Sylhet এর থেকে বেশী।
$T_O < S_O$, and $T_C > S_C$
এটি শুধুমাত্র তখনই হতে পারে যখন Thakurgaon এর non-orange citrus crop এর production Sylhetএর থেকে বেশী।
(a)এখানে climate সম্পর্কে কিছু বলা নেই।
(b)এখানে orange এর size এর সাথে কোন relevanceনেই।
(c) Not sufficient Information
(d)Answer. [Explained Above]
(e) এ সম্পর্কিত কোন information দেয়া নেই।

68.(E) এখানে argument এর premise এ বলা হয়েছে যে society মেয়েদের কাছ থেকে math ব্যতীত অন্য diverse skills expect করে থাকে। এবং conclusion এ বলা হয়েছে এর ফলে পুরুষেরা নারীদের থেকে maths এ বেশী developed, যদিও নারীরা পুরুষদের মতোই capable.
এটি শুধুমাত্র তখনি সম্ভব হবে যদি নারীরা সমাজের expectations মেনে চলে। অন্যথায় তারা সামাজিক নিয়ম ভঙ্গ করে পুরুষদের মত skillsdevelop করতে পারত। অতএব assumption টি হল:
(E) Women tend to conform to social expectations.

69.(B) Question Stem টিতে বলা হয়েছে যে Consumer দেরকে easily manipulate করা যায়না। অনেক সময় তারা জানে তারা কি চায় এবং তাদের চাওয়া অন্যরা যা মনে করে তার থেকে আলাদা হতে পারে। এই argument টিকে weaken করতে গেলে আমাদের দেখাতে হবে যে consumer দের কে easily manipulate করা যায়, যা কিনা করা হয়েছে option no. (B) তে, যেখানে দেখানো হয়েছে advertise করার করণেই product এর sell বেশী হয় এবং advertising is a type of manipulation to sell in this case.
(B) Companies that advertise the most, sell the most products.

Question70-71

QuestionStem টিতে বলা হয়েছে Ms. Mehjabeen মনে করেন MBA students রা lazier হয়ে গেছে কারণ তারা এখন আর regularly assignment জমাদেয়না।

70. (C)এই argument টির premiseএ বলা হয়েছে student রা তাদের যেই কাজ assign করা হয় তা regularly করে না। এখান থেকে conclude করা হয়েছে যে MBA students রা তাই এখন lazier হয়ে গেছে। Assumption টির উচিত work এর সাথে laziness কে associate করা যা করা হয়েছে option (C) তে। তাই এই argument টির assumption হল:
Whether or not students do the work they are assigned is a good indication of how lazy they are.

71. (D) এই argument টির mainflaw হল Ms. Mehjabeen এর myopic view, or irregular sampling. Ms. Mehajbeen তার observation (premise) টি তার student দের মাঝে করেছিলেন। কিন্তু তার conclusion টি ছিল সকল MBA students দের নিয়ে। এরকমও হতে পারে যে কেবলমাত্র Ms. Mehjabeen এর student দের মাঝে এই laziness দেখা যায় এবং অন্য MBA student দের মাঝে দেখা যায়না। অতএব এই argument টির main flaw হল:
The argument assumes that Ms. Mehjabeen's students are representatives of MBA students in general.

Question 72-75

এ puzzle-টিতে condition গুলো হল:

a. Pintu, Rana অথবা Sony এর মধ্যে কেবলমাত্র এক জনকে অবশ্যই থাকতে হবে।
b. একটি team এ Mita অথবা Qazi কে থাকতে হবে, কিন্তু দুজন একত্রে থাকতে পারবেনা।
c. একটি team এ Karim বা Liza থাকলে অপর জনকেও থাকতে হবে।
d. একটি teamএSony, Tushar, বা Wahed এর একজন থাকলে এদের তিন জনকেই থাকতে হবে।
e. Liza এবং Nader একই team এ থাকতে পারবেনা।
f. Liza এবং Tushar একই team এ থাকতে পারবেনা।

72. (B) Largest possible team এ Sony, Tushar এবং Wahed কে নিতে হবে [Condition(d)].
Tushar থাকার কারণে Liza থাকতে পারবেনা [Condition (f)].
Liza না থাকার করণে Karimও থাকতে পারবেনা [Condition(c)].
Sony থাকার কারণে Pintu এবং Rana থাকতে পারবেনা [Condition(a)].
Mita এবং Qazi র মধ্যে যে কোন একজন থাকবে [Condition(b)].
So, longest team এর total number of members হবে 5 [Sony, Tushar, Wahed, Nader, Mita/Qazi]

73. (D) Karim কোন team এ থাকলে সে team এ Liza কে থাকতে হবে [Condition (c)]. Liza থাকার কারণে Nader ও Tushar থাকতে পারবেনা। [Condition (e) and (f)]. Tushar না থাকার কারণে Sony ও Wahed থাকতে পারবেনা [Condition (d)]. Pintu ও Rana এর মাঝে একজন [Condition (a)] এবং Mita ও Qazi এর মাঝে একজন কে থাকতে হবে [Condition (b)]. So, total possible number of team members = 4.

74. (A)Lizaকে কোন teamএ নিলে Karim কে নিতে হবে [Condition (c)]. আবার Pintu, Sony ও Rana এর মাঝে একজন [Condition (a)] এবং Mita ও Qazi এর মাঝে একজনকে থাকতে হবে [Condition (b)]. So, Liza র teamএ কখনই 4 জনের নীচে member থাকবেনা।

75. (C) Question No. 72 থেকে আমরা 5 member team এর possible members এর list থেকে option মিলালেই answer পেয়ে যাব।

MBA (IBA)

Admission Test Question 2011 (December) with Solution

PART I: Multiple Choice Questions (MCQ)

Section I: Language & Communication — 30 questions, 30 marks

Question 1 to 5

Instruction: In each questions there are two sentences. Choose the correct word from the given list that completes the second sentence to properly express the meaning of the first sentence.

01. The instructor was speaking for a long time in a monotonous voice. The meaning of the sentence is: The instructor was _____.
(A) boring (B) droning (C) appalling (D) repeating (E) dull

02. In spite of opinions to the contrary, it is Abir's belief that he is the star of the show. It is a /an_____.
(A) belief (B) delusion (C) illusion (D) fact (E) allusion

03. Of all my classmates, Salma was the only one who was friends with everybody. Salma was _____.
(A) gregarious (B) bashful (C) reticent (D) flamboyant. (E) conceited

04. This is the first time she has competed in the synchronized swimming event. She is _____.
(A) an amateur (B) incompetent(C) a rookie (D) inept (E) a professional

05. I am tempted by the sumptuous chocolate cake, but I can't eat it as my doctor had advised me to watch my weight. I am _____.
(A) Ambiguous (B) enticed (C) tempted (D) ambivalent (E) divided

Question 6 to 10

06. Nowadays, people are more likely to _____ for their smart phone cameras, rather than a _____ device like a point- and - shoot camera or video camcorders, to take pictures or video of fun, casual or spontaneous moments.
(A) choose, specific (B) opt, dedicated (C) obviate, unique
(D) anoint, convenient (E) reach out, convenient

07. It is not just humans that are steadily growing in _____ webpages are growing the same way too. Analysis suggests the _____ is down to user demands for more interactivity.
(A) mirth,gloat (B) volume, svelteness (C) bulk,opulence
(D) girth,bloat (E) none of these

08. The briefing was called to _____ confusion and to put speculation to rest after a newspaper had reported _____ information on the issue.
(A) Stimulate; incongruous (B) relieve; consistent (C) assuage; complementary
(D) kindle; contrary (E) allay; contradictory

09. Admiral Jawad, an expert on Morse Code, was _____ to _____ the incoming message, which appeared to be from some unknown source.
(A) Recruited: encryption (B) approached; disregard (C) consulted; decipher
(D) appointed; create (E) hankered; approbate

10. If_____ market, the innovation could allow the public to_____ the power of their mobile devices using waste material.
(A) brought to; top up (B) introduced at; charge up (C) taken to; exude
(D) Sequestered to; refill (E) none of these

Questions 1 1 to 14

Instruction: Select the word that best expresses the underlined word in each sentence.

11. As soon as the teacher started repeating the instructions during the exam, the student started talking as she knew her voice was drowned by that of the teacher.
(A) masked (B) sunk (C) imitated (D) ruined (E) emulated

12. Shakespeare invented his share of stock characters, but his truly great characters particularly his tragic heroes are unequalled in literature, dwarfing even the sublime creations of the Greek tragedians.
(A) Capricious (B) precocious (C) inspiring (D) Imperious (E) elemental

13. I wonder whether communication can really deter conflicts in organization.
(A) Discourage (B) prevent (C) influence (D) soothe (E) annihilate

14. Because of the multifaceted role they play, women sometimes find themselves taking a circuitous career path in their profession.
(A) Imprecise (B) lengthy (C) extensive (D) vague E) roundabout

Questions 15 to 19

Instruction: Select the correct idiom for filling up the blank in each sentence.

15. We need to be very discreet with the investigation. Otherwise if he gets _____, he will just wind up his business and leave.
(A) wind about it (B) the wind up (C) a wind (D) a wind down (E) wind of it

16. It is truly reprehensible that after all I have done for you, you are now me.
(A) walking all over (B) expecting from (C) walking by
(D) overtaking (E) walking through

17. I know you are feeling intimidated! However, please don't ____ to your fear.
(A) lose over (B) fall (C) give (D)get (E) give in

18. Please stay calm. There is no reason to _____ half-way through the project. It will only create chaos amongst the team members.
(A) pull together (B) pull the plug (C) pull through
(D) pull a fast one (E) pull the strings

19. Julia finally made a clean breast of it and admitted that she had stolen the money. The meaning of underlined part is:
(A) To gain prominence (B) To praise oneself (C) To confess without reserve
(D) To destroy before it blooms (E) None of these

Questions 20 to 25

Instruction: Read the following passage and select the best answer for each of the questions that follow.

From the microfinance lenders presentations:

Smallholder farmers form the backbone of the rural economy, but they are bearing the brunt of climate change. The current speed and intensity of climate change are outpacing their capacity to adapt. Access to financial services in rural areas allows the poor to manage household cash flows, start new agricultural activities and set up small businesses, resulting in higher earnings and reducing the impact of climate change.

Villagers point to the visible improvement in their lives, which they attribute to the livelihood activities made possible by small loans. These include the construction of toilets, engagement with official channels of business and more children in school.

From the social activists' critical perspectives:
The loans, around Tk. 50,000 to start such businesses, are not cheap. They carry an interest rate of 26 percent - up to two times higher than a personal loan from commercial banks. It is as if institutionalizing perpetual debt burden and poverty.
Lenders argue that high interest rates are justified, citing the costs of making and door-to-door payments in remote rural areas on millions of tiny loans. It is still the best option for rural poor, they add. (Adapted from Reuters)

20. The main objective of the passage is:
(A) To provide justification for the high interest rates in microfinance schemes.
(B) To provide the arguments against the practice of micro-lending to small farmers.
(C) To present ideas on how small farmers can mitigate the negative impacts of climate change.
(D) To present both sides of an issue involving microfinance and its impact on small farmers.
(E) To highlight the best alternative available to small farmers in availing livelihood opportunities.

21. Which of the following, if true, would weaken the lenders' reasoning?
(A) Commercial bank loans to businesses are often extended at rates that are effectively as high as 26 percent.
(B) The cost incurred due to evaluating and monitoring personal loans from commercial banks are not required for extending small loans from microfinance lending units to their local farmers.
(C) Without loans made to small farmers, they could not afford to build sanitary toilets.
(D) The cost of making payments is much less than the cost of collecting payments from small farmers in remote rural areas.
(E) Microfinance is the Morse code equivalent of the world of finance, small and necessary.

22. According to the passage, which of the following is not a benefit of access to finance?
(A) Enhancement of income potential
(B) Management of household cash flows
(C) Exacerbation of the impact of climate change
(D) Initializing new enterprises.
(E) All of these are benefits of access to finance.

23. Which of the following, if true, would strengthen the social activists' criticisms?
(A) Individuals who have taken small personal loans to start businesses have experienced greater rise in earnings compared to beneficiaries of microfinance loans.
(B) Loans, in general, not just microfinance, lead to long-term debt burden.
(C) he recovering rates of small, microfinance loans are quite high compared to commercial bank loans.
(D) Loans to start businesses could go as high as Tk. 100,000 or even as low as Tk. 25.000
(E) Formalized debt is better than informal debt where interest rates can be even higher than 30 percent

24. Which of the following argument will reinforce the last line?
(A) There are various government safety nets to rehabilitate destitute small farmers.
(B) The central bank has various schemes implemented through commercial banks to extend low-cost loans to poor farmers.
(C) There are more options available for the rural poor compared to the urban poor, in terms of availability of credit.
(D) In spite of various measures taken, the rural poor have, in fact, little access to safety nets, commercial loans and central bank schemes due to improper implementation.
(E) The poor are destined to be bereft of opportunities of generating income, due to their economic condition at birth, perpetuated by their inadequate access to education.

25. Which of the following would be a suitable title for the passage?
(A) A Critique of Micro-lending to Small Rural Farmers
(B) Climate Change: How Micro finance can help to cope
(C) Interest Rates for the Poor: Too High or Just Right?
(D) Accolade for Micro-Lending: Helping the Poor Farmer.
(E) Best Option for the Poor – Microfinance

Questions 26 to 30

Instruction: Underlined parts of the following sentences may contain error (s) in grammar, diction usage or idiom. Choose the underlined portion that is incorrect. If there is no error, then select (E)

26. Determination (A) of the long term effects (B) of aerosols on the upper atmosphere are (C) currently one of the most challenging (D) problems in climate research. No Error. (E)

27. He had begun (A) the voyage with a mission of (B) exploration, but that (C) quickly became a mission for (D) survival. No Error. (E)

28. He and his team would (A) be the first to walk across (B) the continent, starting from the coast of the Weddell Sea, traversing (C) the South Pole and ending at (D) the Ross Sea. No Error. (E)

29. Tagore's ability to summarize (A) the range (B) of human emotions in simple yet profound (C) eloquent verse is perhaps the greatest reason for his enduring (D) popularity. No Error. (E)

30. It must be him (A) with whom (B) you enjoy to do (C) your assignments, not me. (D) No Error. (E)

Section II: Mathematics — **30 questions, 30 marks**

31. When n is divided by 12, the remainder is 7. Which of the following is NOT an even number?
(A) n+5 (B) n-5 (C) 5n + 3 (D) 3n+2 (E) None of these

32. If z= 14x15x24, which of the following is not an integer?
(A) $\frac{z}{10}$ (B) $\frac{z}{12}$ (C) $\frac{z}{28}$ (D) $\frac{z}{32}$ (E) None of these

33. If 2a + 3b= 8 and ab = 4, then what is the value of $\left(\frac{6}{a}+\frac{4}{b}\right)$?
(A) 3 (B) 3.5 (C) 4 (D) 4.5 (E) None of these

34. Mr. Shohrab is 4 times as old as his son. Four years hence, the sum of their ages will be 43 years. The present age of the son is:
(A) 5 (B) 7 (C) 8 (D) 10 (E) none of these

35. If 4x +2y = 24 and 3x +y = 10, what is the average of x and y?
(A) 5 (B) 6 (C) 7 (D) 8 (E) None of these

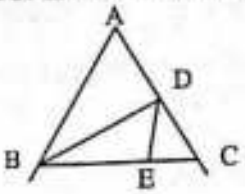
36. If $\frac{1-x}{3}=\frac{1}{15}$ *then* x =
(A) $\frac{14}{45}$ (B) $\frac{1}{5}$ (C) $\frac{4}{5}$ (D) $\frac{6}{5}$ (E) None of these

37. $\frac{2^{33}+4^{20}}{4^{5}-2^{20}}=?$
(A) 2^{10} (B) 2^{20} (C) 2^{30} (D) 2^{40} (E) None of these

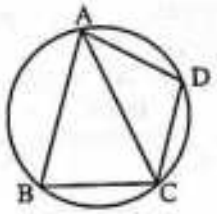
38. The ratio of the cost of two articles is 7:3. The first one was sold at a loss of 20% and the second one was sold at a gain of 40%. What is the overall percentage of gain / loss?
(A) 2% loss (B) 2% gain (C) 4% loss (D) 4% gain (E) None of these

39. If $(3x \le x+6)$ and (2x +4 < 3x +6), what values of x will satisfy both the inequalities?
(A) 2<x<3 (B) −2< x ≤ 3 (C) −2≤x ≤3 (D) 2≤x ≤ 3 (E) None of these

40. In the figure AB = AC, AB is parallel to DE, BD bisects ∠ABC. ∠ BDE = 25°. Calculate ∠BAC
(A) 65° (B) 70° (C) 75°
(D) 80° (E) none of these



41. ABCD is a rectangle inscribed in a circle. Given that AB = AC and ∠ BAC= 50°, ∠ ADC=?.
(A) 100°(B) 110°(C) 115°
(D) 120° (E) none of these



42. The salary of X is Tk. 7,000 more than that of Y. The salary ofY is Tk. 5000 more than that of Z. If the ratio of X's salary to Z's salary is 9: 5. what is the salary of X?
(A) 12,000 (B) 15,000 (C) 20,000 (D) 27,000 (E) None of these

43. Of the following, which is closest to [(10.02 x 396)/ (24.95 xx 15.90)]?
(A) 4 (B) 8 (C) 10 (D) 16 (E) None of these

44. Arif can travel $\frac{x}{5}$ kms in y hours, how many kilometer can he travel in zminutes?
(A) $\frac{xy}{5z}$ (B) $\frac{xz}{12y}$ (C) $\frac{xz}{30y}$ (D) $\frac{xz}{300y}$ (E) None of these

45. When three numbers are divided by 5, the remainders are 0, 3 and 4 respectively. Which of the following could be the sum of the three numbers?
(A) 52 (B) 63 (C) 74 (D) 86 (E) None of these

46. If x is an odd integer, for which of the following equations must y be an even integer?
(A) xy=15 (B) x + 2y= 15 (C) 2x + y= 15 (D) 3x + y= 15 (E) None of these

47. A chair was sold at a loss of 8%. If the chair was sold at a profit of 7%, the seller would get Tk. 300 more. What is the cost price of the chair in Taka?
(A) 1800 (B) 2000 (C) 2250 (D) 2400 (E) None of these

48. Asad went to the market to buy 12 oranges. But he found that he had the money to buy only 10 oranges. He calculated that if the price per piece of orange was tk. 3 less, he could have bought 12 oranges. how much money did Asad have?
(A) 150 (B) 160 (C) 175 (D) 180 (E) None of these

49. If75% of x is equal to 50% of y. Then $(x + y) = ?$
(A) 1.25y (B) 1.80y (C) 2.25x (D)2.50x (E) None of these

50. Some chocolates were distributed among three children X, Y and Z.If X gave 8 chocolates to Y and Y gave 5 chocolates to Z then all of them would have equal number of chocolates. If the total number of chocolates were 45. How many chocolates did Y get?
(A) 10 (B) 12 (C) 14 (D) 15 (E) None of these

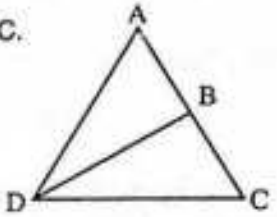
51. For which values of x is the value of $(x^2 - 6x + 8)$ negative?
(A) 2<x<4 (B) x<4 (C) 8>x>6 (D) x>8 (E) None of these

52. A square originally had sides with length x. Both the length and breadth of the plot are increased by y%. If the new area is 20% more than the original area, then which of the following are true?
(A) 8>y>6 (B) 9>y>8 (C) 10>y>9 (D) 11 > y> 10 (E) None of these

53. If $33^2 - 17^2 = 25x$, what is the value of x?
(A) $14^2/25$ (B) 20 (C) $16^2/25$ (D) 32 (E) None of these

54. The unit price of a pen is Tk. 20 for the first 50 units. Additional units can be bought for Tk. $\left(20 - \frac{x}{10}\right)$ per unit. If you can buy 150 pens for taka 2,000, what is the value of x ?
(A) 20 (B) 40 (C) 50 (D) 60 (E) None of these

55. In the figure, AD = AB, AD = DC and $\angle ABD = 65^0$. Find $\angle ADC$.
(A) 15^0 (B) 25^0 (C) 30^0
(D) 45^0 (E) None of these



56. If x and y are both odd integers and z is an even integer, which of the following must be an even number?
(A) (x +z) (y –z) (B) x (y + z) (C) y (x –y+z) (D) y (x +z – 2) (E) None of these

57. Abir's monthly salary is equal to 30% of Zahir's monthly salary or 20% of Sohel's monthly salary. If the sum of Zahir's monthly salary and Sohel's monthly salary is Tk. 50, 000, what is the monthly salary of Abir?
(A) 6,000 (B) 7,500 (C) 8,500 (D) 10,500 (E) None of these

58. A number when divided by 102 leaves the remainder 15. If the same number is divided by 17. What will be the remainder?
(A) 2 (B) 8 (C) 13 (D) 15 (E) None of these

59. The cost price of 20 pens is the same as the selling price of x number of pens. If the profit is 25%, what is the value of x?
(A) 15 (B) 16 (C) 20 (D) 25 (E) None of these

60. A, B and C together can complete a piece of work in 20 days. Both A and B individually can work twice as fast as C. In how many days would A alone be able to complete the work?
(A) 36 (B) 40 (C) 50 (D) 54 (E) None of these

Section III: Analytical Ability — 15 questions, 15 marks

Air Force planes - W, X, Y, and Z - are supposed to leave from a base on a special mission. The planes will return to the base after completing their respective missions. However, it was decided that W should depart before X, and Y should depart before Z.

61. Given the restrictions mentioned above, each of the following is a possible sequence in which the four planes can depart EXCEPT
(A) W, X, Y, Z (B) W, Y, X, Z (C) W, Y, Z, X (D) Y, W, Z, X (E) Y, X, W, Z

62. There would be exactly one order in which the four planes would depart if it were determined that
(A) Z should depart before W (B) W should depart before Y (C) W should depart before Z
(D) Y should depart before X (E) Z should depart before X

63. If the time required to complete the missions are equal, it must be true that
(A) W will return to the base before Y (B) W will return to the base before Z
(C) X will return to the base before Y (D) Y will return to the base before Z
(E) Y will return to the base before X

64. Which of the following pairs of additional determinations would NOT conflict with the conditions initially determined?
(A) W should depart before Y, and Z should depart before W.
(B) X should depart before Y, and Y should depart before W.
(C) X should depart before Y, and Z should depart before W.
(D) X should depart before Z, and Z should depart before W.
(E) W should depart before Z, and Y should depart before X.

Questions 65 to 66

Rahim, Karim & Babul are three brothers. They always answer every question with two statements. One is always true, the other is always false.

A table lamp was broken and everyone of them knew who had broken it. When asked about who broke the table lamp, the following answers were received.

Rahim: "I did not do it. Karim did not do it".
Karim: "I did not do it. Babul did not do it."
Babul: "I did not do it. I do not know who did it."

65. Who broke the lamp?
(A) Rahim (B) Karim (C) Babul (D) Neither of these three (E) Cannot be determined

You want to speak to the eldest brother. You also notice that Rahim is wearing a green shirt. When you asked them who is the eldest brother you received the following answers:

Rahim: "I am not Babul's brother. The eldest brother wears a red shirt."
Karim: "I am wearing a blue shirt. I am the eldest brother."
Babul: "I am Rahim's brother. Karim is the eldest brother."

66. Who is the eldest brother?
(A) Rahim (B) Karim (C) Babul (D) Cannot be determined
(E) Either of Rahim or Karim

Questions 67 – 72

IBA will participate in a debating competition and the team representing IBA will consist of exactly 2 members from BBA program and exactly three members from MBA program. Three students from BBA program - X, Y and Z - and five students from MBA program -M, N, O, P and Q - have qualified to participate in the final round of the debate competition. The following restrictions are applied in forming the term:

Y cannot be in the same team as Q.
M cannot be in the same team as P.
N cannot be in the same team as Q.

67. Which of the following student must be included in the team?
(A) X (B) Y (C) Z (D) M (E) O

68. If Z is not included in the team, any of the following students can be included in the team EXCEPT
(A) M (B) N (C) O (D) P (E)Q

69. If Y is included in the team, who must also be included in the team?
(A) X (B) Z (C) M (D) N (E) P

70. Which of the following is a valid team?
(A)X, Y, M, N, P (B) X, Y, Z, N, P (C) Y, Z, M, N, Q (D) Y, Z, M, O, N
(E) X, Z, M, N, P

71. If a valid team is formed, which of the following substitutions will also result in a valid team?
(A)M for P (B) N for O (C) P for O (D) Q for M (E) Q for N

72. If Q is included in the team, which of the following pair of students must also be included in the team?
(A) X and Y (B)X and Z (C) Y and Z (D) M an O (E)O and P

Questions 73 – 75

Newly admitted Six PhD students of IBA- Bashar, Mirza, Nadira, Zamil, Susmita and Rumana - are being assigned to office rooms, each of which can accommodate two persons and no more than two. Each person must be assigned to exactly one office room and must reassigned to that office either alone or else together with one other member of the group of six. Enough offices are available to permit any possible assignment of group members to offices, but the following restrictions must be observed:

- Mirza cannot share an office with Nadira.
- Nadira cannot share an office with Zamil.
- Susmita and Rumana must share an office together.

73. Which of the following pairs of students can be assigned to one office together?
(A) Bashar and Rumana (B) Bashar and Zamil (C) Nadira and Zamil
(D) Mirza and Nadira (E) Susmita and Mirza

74. If Nadira is assigned to an office alone, which of the following must be true?
(A)No one other than Nadira is assigned to an office alone.
(B) Bashar shares an office with Zamil. (C) Mirza is assigned to an office alone.
(D) The group occupies either 3 or 6 offices. (E) The group occupies either 4 or 5 offices.

75. If Susmia and Rumana are the only ones who share an office, how many offices are the minimum that can accommodate the group?
(A) 2 (B) 3 (C) 4 (D) 5 (E) 6

PART II: Writing Ability — 20 Marks

A. "Enacting laws against food adulteration is not adequate to protect the consumers from health risk" - discuss and suggest with arguments the other measures requited to prevent this unethical practice in the country.

B. Write a paragraph on **"Pitha Utsab"**

ANSWER KEY

Section I: Language &Communication

1.B	2.B	3.C	4.C	5.D	6.B	7.C	8.B	9.C	10.A
11.A	12.C	13.B	14.E	15.E	16.A	17.E	18.E	19.C	20.D
21.B	22.C	23.A	24.D	25.A	26.C	27.D	28.D	29.C	30.C

Section II: Mathematics

31.D	32.D	33.C	34.B.	35.C	36.C	37.E	38.A	39.B	40.D
41.C	42.D	43.C	44.D	45.A	46.D	47.B	48.D	49.D	50.B
51.A	52.C	53.D	54.E	55.E	56.C	57.A	58.D	59.D	60.C

Section III: Analytical Ability

61.E	62.A	63.D	64.E	65.B	66.C	67.E	68.E	69.D	70.D
71.A	72.B	73.B	74.E	75.D	-	-	-	-	-

Section I: Language &Communication

01. (B): droning. Here, the confusing option is (A): boring; কিন্তু instructor অনেকক্ষণ ধরে বিরক্তিকর (monotonous) ভাষায় কথা বলছিলেন। 'Droning' অর্থ (Main verb – drone) অনেকক্ষণ ধরে একঘেয়ে ভাবে চলতে থাকা বিরক্তিকর শব্দ। drone (v): continuous boring sound (especially made by bees). Therefore, the answer is B.

02. (B): delusion (অর্থ মিথ্যা বা ভ্রান্ত বিশ্বাস)। illusion অর্থ কাল্পনিক বা ভ্রান্তিকরপূর্ণ ছবি বা মিথ্যা। allusion (verb-allude) অর্থ কোন কিছুকে indirectly refer করা। Abir বিশ্বাস করে যে সে show টির star (which is contradictory বা বিরোধপূর্ণ) তাই এটি তার delusion. Therefore, the answer is B.

03. (C): gregarious (অর্থ - outgoing person or one who can befriend people easily). Bashful অর্থ - Shy; Reticent হল almost silent এর synonym. Flamboyant মানে আকর্ষণীয়পূর্ণ, conceited অর্থ যিনি নিজেকে নিয়ে গর্বিত। তাই, স্পষ্টত ঃ Salma সবার Friend ছিল বিধায় সে ছিল gregarious.
Therefore, the answer is C.

04. (C): a rookie. Here, the confusing option is (A): Amateur (অর্থ inexperienced and not professional), কিন্তু rookie = one who is doing something for the first time. যেহেতু synchronized swimming event এ সে প্রথম, তাই She is a rookie. Therefore, the answer is C.

05. (D): ambivalent. Ambiguous অর্থ unclear because of having two meanings. Sumptuous chocolate cake খেতে চাওয়া স্বত্ত্বেও Doctor এর advice এর কারণে খেতে পারছেনা। তাই স্পষ্টতঃ ambiguous হবে না। enticed অর্থ lured, tempted অর্থাৎ lured; divided হতে পারে না। ambivalent অর্থ দুই দিক দিয়ে টানাতে এমন কিছু। তাই "I am ambivalent" হবে। Therefore, the answer is D.

06. (B). Electronic জিনিসের ক্ষেত্রে dedicated শব্দটির অর্থ জিনিসটি শুধুমাত্র একটি specific purpose এর ক্ষেত্রে ব্যবহৃত হয়। এখানে opt ভাবার্থ অর্থ হল ঝুঁকে পড়া। অর্থাৎ people, point and shoot camera অথবা Video camcorders এর মত dedicated device থাকতেও তাদের smart phone camera দিয়ে picture তুলতেছেঅথবা video করতে পছন্দ করে। Therefore, the answer is B.

07. (C). Options থেকে choose করার আগে আমরা blanks এ কি বসতে পারে তা guess করি। 1st sentence এর 1st clause এ human grow এর কথা বলা হয়েছে এবং 2nd clause এ যা webpage grow এর সাথে তুলনা করা হয়েছে। তাই প্রথম blank এ 'আকারে প্রকৃত' জাতীয় কোন word বসবে। That leaves us with 'bulk' and 'girth'. 2nd sentence থেকে বুঝা যায় interactivity-র জন্য যে resource থাকা দরকার তা user demand থেকে কম। Resource এর synonym হতে পারে opulence. So, (C): 'bulk, opulence' is the answer.

08. (B). Confusing answer is E. Speculate (noun – speculation) অর্থ সব information না জেনে guess করে report করা বা কোন কিছু বলা। Briefing call করা হয়েছিল Confusion দূর করতে। একটি বাদে বাকি সব (the rest) newspaper অসংগতিপূর্ণ information publish করেছিল। after থাকার জন্য বুঝা যায় ঐ একটি newspaper সঠিক information publish করায় বাকিদের speculation দূর করতে briefing ডাকা হয়েছিল। তাই ঐ একটি Newspaper এর report ছিল consistent. Contradictory হবে না, কারণ, ঐ একটি newspaper এর report contradictory এবং বাকিদের টা speculated হলে confusion remove বা allay করা যাবে না। তাই E answer হতে পারে না। Therefore, the answer is B.

09. (C). Admiral Jawad একজন Morse code expert. তাই code break (decipher) করতে তার পরামর্শ দরকার। So, he was consulted to decipher the code in the incoming message.
Therefore, the answer is C.

10. (A) Market-এ আসলে,Innovation টি mobile device এর power কে waste material দিয়ে ধরে রাখতে allow করবে।
(B) charge up হবে না, কারণ battery, charge up করা যায়। power নয়।
(C) exude মানে প্রবাহের মাধ্যমে বের হয়ে যাওয়া। সে ক্ষেত্রে Co যাবে।
(D) সবার আগে বাদ, কারণ sequester মানে হল 'বিচ্ছিন্ন করা'। Therefore, the answer is A.

11. (A): masked. Exam এর সময় teacher, instruction repeat করায় student কথা বলা শুরু করল কারণ সে জানত তার voice, teacher এর voice এর কাছে drowned (বাংলায় যাকে বলে নিমজ্জিত) হয়ে যাবে। Drowned এর শাব্দিক synonym হতে পারে sunk. আবার confusing answer হল ruined যা সবসময় negative অর্থে use হয়। যদি student এর voice এ teacher এর instruction drowned হত সেক্ষেত্রে ruined use করা যেত। তাই, the best option is (A).

12. (C): inspiring; (Capricious —খামখেয়ালিপূর্ণ, Precocious প্রতিভাপূর্ণ, Imperious — দাম্ভিক, Sublime— awesome, Dwarf— কাউকে ছোট করা, elemantal—প্রাথমিক) ।এখানে sublime creations of Greek tragedian এর পরিবর্তে inspiring creation of Greek tragedian বসালে অর্থের change হয় না। Therefore, the answer is C.

13. (B): prevent. Deter —কোন কিছুকে অন্যমুখী করা। Conflicts in organization, communication দ্বারা discourage, soothe (শান্তকরা), annihilate (ধ্বংস করা) বা influence করা যায় না। শুধুমাত্র Prevent বা প্রতিরোধ করা যায়। Therefore, the answer is B.

14. (E): roundabout. Multifaceted — বহুমুখী। Circuitous — ঘূর্ণনশীল (রাস্তাঘাটের ক্ষেত্রে detour ও বলা যায়) Synonym হতে পারে 'roundabout' (ঘূর্ণনশীল ও দীর্ঘ)। Therefore, the answer is E.

15. (E): wind of it. Be careful with "discreet" and "discrete" (Discreet — সর্তক, 'Discrete' means 'separated'. wind up --- তাত্ত্বিকভাবে গোটানো এক্ষেত্রে wind এর সাথে appropriate preposition হতে পারে of). 'Get wind of something' means 'to learn of something' or 'to hear about something'. Therefore, the answer is E.

16. (A): walking all over. Reprehensible --- ঘৃণার যোগ্য। 'Walking all over some one' means 'to treat someone or something very badly'. Therefore, the answer is A.

17. (E): give in. Intimidated --- ভীত, সন্ত্রস্ত। 'give in' means 'to relent'(ছেড়ে দেয়া). Therefore, the answer is E.

18. (E): pull the strings. Pull together —একসাথে কাজ করা। Pull the plug - চলা অবস্থায় বন্ধ করা। Pull through — problem face করতে help করা। Pull the fast one— to trick some body. Pull the strings — to control the actions of a person or group, often secretly. Therefore, the answer is E.

19. (C): to confess without reserve. 'To make a clear breast of something' means 'to confess, or to tell the truth about something'. So, the answer is C.

20. (D). Comprehension এর দুটো Part এর মধ্যে 1st part এ, 'Micro finance lender', micro finance এর advantage গুলো বলেছে। আবার 2nd part এ একজন 'Social activist', micro finance কে criticize করেছে। অর্থাৎ Comprehension টি Micro Finance এর Positive, Negative দুটো Side ই তুলে ধরেছে। Therefore, the answer is D.

21. (B). Comprehension এর last Paragraph থেকে জানতে পারি high interest এর পক্ষে Lenders এর points হলো, গ্রাম্য (Rural) এলাকাগুলোতে বাড়ি বাড়ি গিয়ে টাকা ধার দেয়ার জন্য যে খরচ হয় তা High interest rate থেকে উসুল করা হয়। Option(B) বলে Commercialbank গুলোর personal loan, monitor এবং evaluate করতে যে খরচ হয়, microfinance lender দের সে খরচ নেই, কারণ local farmerদেরকে দেয়া money তাদের monitor এবং evaluate করতে হয়না। Option টি Mean করতে চেয়েছে, Commercial bank এর cost, Microfinance lender দের থেকে বেশি কিন্তু তারা highinterest আদায় করেনা। Therefore, the answer is B.

22. (C). Exacerbate —কোন কিছুকে আরও খারাপ করা। Impact of climate change এর জন্য Micro finance lending এর benefit নেই। Therefore, the answer is C.

23. (A). Comprehension থেকে দেখা যায় Social Activist criticize করে বলেছিল 26% interest rate, commercial bank এর, এবং 50,000tk নিয়ে business শুরু করা tough. Option (A) থেকে জানতে পারি যারা personal loan নিয়ে business start করেছিলেন, তারা microfinance borrower দের চেয়ে কম সময়ে greater earning বা income করেছেন। Therefore, the answer is A.

24. (D). Comprehension এর last line বলতে চেয়েছে interest rate high হলেও Micro finance lending, গ্রাম্য (rural) গরীব সম্প্রদায়ের জন্য best option. Option (D) থেকে জানতে পারি বিভিন্ন measures গ্রহণ করলেও rural poor রা safety commercial loan এবং central bank এর বিভিন্ন scheme থেকে বঞ্চিত থাকছে। ফলে, Microfinance landing-ই তাদের development এর একমাত্র উপায়। সুতরাং Option (D) Last line কে Reinforce (আরো শক্তিশালী) করে। So, the answer is D.

25. (A). Comprehension টি পড়ে আমরা জানলাম এখানে microfinance এর advantages নিয়ে 1st এবং 2nd para তে Lenders এর perspective দেয়া হয়েছে। পরবর্তীতে part -3 তে একজন Critic, microfinance lending এর high interest এর Disadvantage নিয়ে কথা বলেন, যা last para তে lenderরা defend করার try করেন।
Option (B) হতেই পারেনা, কারণ Climate change নিয়ে কিছুই Comprehension এ ছিলনা।
Option (C) তে interest rate এর কথা বলা হয়েছে। কিন্তু সেই Interest কি Commercial bank অথবা microfinance institute অথবা Personal loan থেকে accrue করবে তা বলা নেই।
Option (D) হবে না, কারণ Comprehension এ Microfinance lending এর accolade (প্রশংসাস্তুতি) করা হয় নি।
Option (E) হবে না, কারণ Comprehension টিতে শুধুমাত্র Microfinance এর Advantage গুলোই নয় disadvantage গুলোও আলোচনা করা হয়েছে এবং তার against এ argue ও করা হয়েছে। তাই best option is (A).

26. (C). Subject – Verb agreement অনুযায়ী এখানে is হওয়ার কথা। কারণ এখানে Subject হল Determination, "effects" এখানে Subject নয়। Therefore, the answer is C.

27. (D). Mission এর পর appropriate preposition হিসেবে of বসবে। Therefore, the answer is D.

28. (D). ending এর পর up বসবে, তার পর at হবে। Follow it up in the *Oxford Dictionary*: 'end up' এর meaning হল "to be at last in/at somewhere where one is supported to be." So, the answer is D.

29. (C). 'verse' হল Noun. Noun এর আগে adjective হিসেবে বসেছে eloquent. Adjective কে modify করতে হলে তার আগে adverb বসবে। ' profoundly ' হল adverb. Therefore, the answer is C.

30. (C). 'Enjoy' এর পর infinitive না হয়ে gerund বসে। তাই 'enjoydoing' your assignments হবে।
So, the answer is C.

Section II: Mathematcs

31. (D) যেহেতু n কে 12 দিয়ে ভাগ করলে ভাগশেষ বা remainder 7, সেহেতু n একটি odd number.
(A) n + 5 = odd + odd = even
(B) n – 5 = odd – odd = even
(C) 5n + 3 = (odd × odd) + odd = odd + odd = even
(D) 3n + 2 = (odd × odd) + even = odd + even = odd

32. (D) Given, $z = 14 \times 15 \times 24$
(A) $\frac{z}{10} = \frac{14\times15\times24}{10} = 7 \times 3 \times 24 =$ integer (B) $\frac{z}{12} = \frac{14\times15\times24}{12} = 14 \times 15 \times 2 =$ Integer
(C) $\frac{z}{28} = \frac{14\times15\times24}{28} = 15\times12 =$ Integer (D) $\frac{z}{32} = \frac{14\times15\times24}{32} = \frac{7\times15\times3}{2} =$ not integer

33. (C) $\frac{6}{a}+\frac{4}{b} = \frac{6b+4a}{ab} = \frac{2(3b+2a)}{ab}$
$= 2 \times \frac{8}{4} = 4$ [Given, 2a + 3b = 8,and ab = 4]

34. (B) ধরি, Mr. Sohrab এর son এর present age = x
∴ Mr. Sohrab এর Present age = 4x. 4 years পরে,Mr. Sohrab এর son এর age হবে = x + 4
Mr. Sohrab এর age হবে = 4x + 4 বলা হয়েছে,
(x + 4) + (4x + 4) = 43 বা, 5x + 8 = 43 বা, 5x = 35
∴ x = 7

35. (C) 4x + 2y = 24 ----(1); 3x + y = 10 ----(2); (1) – (2) থেকে পাই x + y = 14 বা, $\frac{x+y}{2} = 7$

36. (C) $\frac{1-x}{3} = \frac{1}{15}$ বা, $1 - x = \frac{1}{5}$ বা, $x - 1 = -\frac{1}{5}$ বা, $x = 1 - \frac{1}{5} = \frac{5-1}{5}$ ∴ $x = \frac{4}{5}$

37. (E) $\frac{2^{30}+4^{20}}{4^5-2^{20}} = \frac{2^{30}+(2^2)^{20}}{(2^2)^5-2^{20}} = \frac{2^{30}+2^{40}}{2^{10}-2^{20}}$

The denominator ($2^{10} - 2^{20}$) must be negative here. Any positive number divided by any negative number will be negative. So this fration is negative. No negative answer is given here. So answer E.

38. (A) Ratio = 7 : 3 Sum of Ratio = 7 + 3 = 10
20% loss এ first item এর selling price = 7 – 0.2 × 7 = 5.6
40% gain এ second item এর selling price = 3+0.4 x 3 = 4.2
তাই New Ratio = 5.6: 4.2 Sum of New Ratio = 5.6 + 4.2 = 9.8
∴ % of loss/gain = (9.8 – 10) × 100% = – 2% = 2% loss

39. (B) 3x ≤ x + 6 বা, 2x ≤ 6 ∴ x ≤ 3 -----(1) Again, 2x + 4 < 3x + 6 বা, 3x + 6 > 2x + 4
বা, x > 4– 6 বা, x >– 2 বা, – 2 < x -----(2) (1) ও (2) নং অসমতা একত্র করে পাই – 2 < x ≤ 3.

40. (D) AB = AC ∴∠ACB = ∠ABC.
আবার, AB ও DE parallel এবং BD এবং এদের ছেদকতাই ∠BDE = ∠ABD [একান্তর কোণ] BD, ∠ABC এর bisector বলে∠ABD = ∠DBE = ∠BDE = 25°∴∠ABD + ∠DBE = ∠ABC = 25° + 25° = 50°
∴∠ACB = ∠ABC = 50° এখন, ∠ACB + ∠ABC + ∠BAC = 180° বা, 50° + 50° + ∠BAC = 180°
∴∠BAC = 180° – 100° = 80°

41. (C) ∠BAC = 50°
⇒∠ABC + ∠ACB = 180° –∠BAC = 180°– 50° = 130°.আবার, AB = AC ∴∠ACB =∠ABC= 65°
∴∠ABC +∠ADC = 180° [বৃত্তস্থ চতুর্ভুজের বিপরীত কোণদ্বয়ের সমষ্টি ২ সমকোণ]
∴∠ADC = 180° – 65° = 115°.

42. (D) Given, x = y + 7000 বা, y = x – 7000 -----(1) আবার, y = z + 5000 -----(2) এবং $\frac{x}{z} = \frac{9}{5}$
∴ $z = \frac{5}{9}x$ -----(3) তাই (2) ও (3) থেকে পাই $y = \frac{5}{9}x + 5000$ বা, $x - 7000 = \frac{5}{9}x + 5000$
বা, $\frac{4}{9}x = 12000$ ∴ x = 27,000

43. (C) $\frac{10.02\times396}{24.95\times15.90}\approx\frac{10\times400}{25\times16}=10$

44. (D) y hr এ travel করে $\frac{x}{5}$ km 1 hr এ travel করে $\frac{x}{5y}$ km

1 min এ travel করে $\frac{x}{5y\times60}$ km z min এ travel করে $\frac{xz}{5y\times60}$ km

45. (A) ধরি, 5 দিয়ে ভাগ করলে remainder 0 থাকে এমন একটি number হল 'x' So, 5 দিয়ে ভাগ করলে remainder 3 এবং 4 থাকবে এ রকম সংখ্যা হল (x + 3) এবং (x + 4). ∴number গুলোর sum = x + (x + 3) + (x + 4)
= 3x + 7.

(A) 3x + 7 = 52 বা, 3x = 45 or x = $\frac{45}{3}$ ∴x = 15 15 কে 5 দিয়ে ভাগ করলে remainder 0.

(B) 3x + 7 = 63 বা, 3x = 56 or x = $\frac{56}{3}$ ∴x integer নয়

(C) 3x + 7 = 74 বা, 3x = 67 or x = $\frac{67}{3}$ ∴x integer নয়

(D) 3x + 7 = 86 বা, 3x = 79 or x = $\frac{79}{3}$ ∴x integer নয়

46. (D) x = odd

(A) xy = 15 বা, y = $\frac{15}{x}=\frac{odd}{odd}$ = odd

(B) x + 2y = 15 বা, 2y = 15 – x বা, y = $\frac{15-x}{2}$

$\frac{odd-odd}{2}=\frac{even}{2}$ = even/odd

[example $\frac{8}{2}$ = 4 = even; $\frac{10}{2}$ = 5 = odd]

(C) 2x + y = 15 বা, y = 15 – 2x = odd – 2 × odd = odd – even = odd

(D) 3x + y = 15 বা, y = 15 – 3x = odd – odd × odd = odd – odd = even.

47. (B) Let, cost price = x Tk 8% loss এ price = 0.92x; 7% profit এ price = 1.07x
∴ 1.07x – 0.92x = 300 বা, 0.15x = 300 ∴ x = 2000 Tk.

48. (D) Let, Asad এর কাছে আছে x টাকা।

x টাকা দিয়ে 10টি orange কিনলে per piece price = $\frac{x}{10}$ টাকা। যেহেতু per piece এ 3 টাকা কমলে 12টি orange কিনতে পারত, তাই $\left(\frac{x}{10}-3\right)$ হবে $\frac{x}{12}$ এর সমান ∴ $\frac{x}{10}-3=\frac{x}{12}$ বা, $\frac{x}{10}-\frac{x}{12}=3$ বা, $\frac{6x-5x}{60}=3$
∴x = 180 Tk.

49. (D) $\frac{1}{2}y=\frac{3}{4}x \Rightarrow y=\frac{3}{2}x$ ∴$x+y=x+\frac{3}{2}x=2.5x$

50. (B) যেহেতু give & take এরপর সবার সমান chocolate থাকত, তাই সবাই পরে $\frac{45}{3} = 15$ টি করে chocolate পেত।
y যদি x এর কাছ থেকে 8 টি নিয়ে y কে 5 টি chocolate দেয় তাহলে y এর থাকে $y + 8 - 5 = y + 3$ টি chocolate.
$\therefore y + 3 = 15 \quad \Rightarrow y = 12$

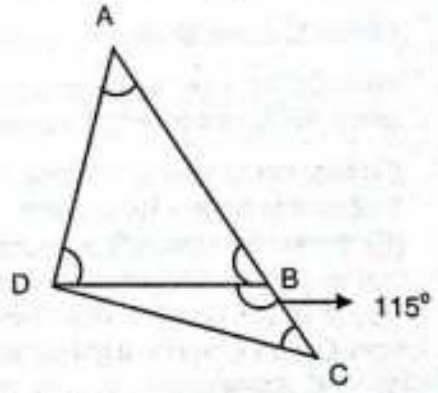
51. (A) $(x^2 - 6x + 8)$ এর value negative মানে
$x^2 - 6x + 8 < 0$
বা, $x^2 - 4x - 2x + 8 < 0$
বা, $x(x-4) - 2(x-4) < 0$
বা, $(x-2)(x-4) < 0$
$\therefore 2 < x < 4.$

52. (C) Side এর length x হলে square এর area $= x^2$
y% increase এ side এর length হয়
$= \left(1+\frac{y}{100}\right)x$ ∴ নতুন square এর area $= \left(1+\frac{y}{100}\right)^2 x^2 \therefore \left(1+\frac{y}{100}\right)^2 x^2 = 1.2\,x^2$
$\therefore \left(1+\frac{y}{100}\right)^2 = 1.2 \Rightarrow 1+\frac{y}{100} = 1.0989 \Rightarrow y = 9.89 \therefore 10 > y > 9$

53. (D) $33^2 - 17^2 = 25x \Rightarrow (33+17)(33-17) = 25x \Rightarrow 50 \times 16 = 25x \Rightarrow x = \frac{50\times16}{25} = 32$

54. (E) First 50 units এর মোট price $= 50 \times 20 = 1000$ Tk.
So, Additional $(150 - 50) = 100$ units এর মোট price $= 2000 - 1000 = 1000$ Tk.
∴ Additional pen এর per unit price $= \frac{1000}{100} = 10$ Tk. Conditionally, $20 - \frac{x}{10} = 10$
$\Rightarrow \frac{x}{10} = 10 \therefore x = 100$

55. (E) দেয়া আছে, AD = AB ∴ΔABD তে ∠ABD = ∠ADB = 65°
∴∠CBD = 180° − 65° = 115°
আবার, ∠BAD + ∠ABD + ∠ADB = 180°
⇒∠BAD + 65° + 65° = 180°.∴ ∠BAD = 50° = ∠CAD
ΔADC তে AD = DC ∴∠ACD = ∠CAD
∴∠ACD = 50°;Δ BDC তে ∠BDC + 115° + 50° = 180°
∴∠BDC = 15° ∴∠ADC = 65° + 15° = 80°



56. (C) x = odd, y = odd, z = even
(A) (x + z) (y − z) = (odd + even) (odd − even) = odd × odd = odd
(B) x (y + z) = odd × (odd + even) = odd × odd = odd
(C) y (x − y + z) = odd (odd − odd + even) = odd (even + even) = odd × even = even
(D) y (x + z − 2) = odd (odd + even − even) = odd (odd − even) = odd × odd = odd

57. (A) দেয়া আছে, $A = 0.3\,Z$ এবং $A = 0.2\,S \therefore 0.3\,Z = 0.2S \Rightarrow 3Z = 2S \therefore Z = \frac{2}{3}S$
আবার, $Z + S = 50{,}000 \Rightarrow \frac{2}{3}S + S = 50{,}000 \Rightarrow 5S = 150{,}000 \therefore S = 30{,}000$
$\therefore A = 0.2 \times S = 0.2 \times 30{,}000 = 6{,}000$

58. (D) যদি, 102 দিয়ে divide করলে remainder 15 থাকে এরকম একটি number $(x + 15)$ যেখানে x হল একটি number যা 102 দিয়ে divisible.
$\therefore x = n \times 102$ [n = 1, 2, 3, 4 .....]
$= n \times 2 \times 51 = n \times 2 \times 3 \times 17$ $\therefore$ x কে 17 দিয়েও ভাগ করা যায়।
and, since, $15 < 17$ তাই আমাদের ধরে নেয়া number টিকে 17 দিয়ে divide করলে remainder 15 -ই থাকবে।

59. (D) Cost price of 20 pens = selling price of x pens. 25% profit এ 20 টি pen এর selling price হবে $1.25 \times 20 = 25$ টি pen এর cost price এর সমান। $\therefore x = 25$.

60. (C) Rate of A $= \frac{1}{A}$ Rate of B $= \frac{1}{B}$ Rate of C $= \frac{1}{C}$. আবার, $\frac{1}{A} = 2 \times \frac{1}{C}$ $\therefore \frac{1}{C} = \frac{1}{2A}$

$\frac{1}{B} = 2 \times \frac{1}{C}$ $\therefore \frac{1}{C} = \frac{1}{2B}$ $\therefore \frac{1}{A} = \frac{1}{B} = \frac{2}{C}$. Given, $\frac{1}{A} + \frac{1}{B} + \frac{1}{C} = \frac{1}{20}$

$\Rightarrow \frac{1}{A} + \frac{1}{A} + \frac{1}{2A} = \frac{1}{20} \Rightarrow \frac{2+2+1}{2A} = \frac{1}{20} \Rightarrow \frac{5}{2A} = \frac{1}{20}$ $\therefore A = \frac{5}{2} \times 20 = 50$

Section III: Analytical

Puzzle 1:
W departs before X এবং
Y departs before Z

61. (E) আমাদের এমন একটি Option খুঁজতে হবে যাতে W, X এর পরে অথবা Y, Z এর পরে আছে।
Option E তে W, X এর পরে আছে।

62. (A) আমাদের বের করতে হবে সেই Option যেটিকে উপরোক্ত condition এর সাথে add করলে flight schedule একটি order এ থাকে। Condition অনুযায়ী W, X এর আগে এবং Y, Z এর আগে fly করবে।
Option B হবে না কারণ W, Y এর আগে গেলে flight হতে পারে: W, X, Y, Z এবং W, Y, X, Z.

Option C consider করলে flight schedule হয়: W, X, Y, Z;W, Y, X, Z এবং W, Y, Z, X.

Option D consider করলে flight schedule হয়: W, Y, Z, X এবং Y, Z, W, X

শুধুমাত্র Option A তেই একটি flight schedule পাওয়া যায় আর তা হল:Y, Z, W, X
এক্ষেত্রে W, X এর আগেএবংY, Z এর আগে fly করে।

63. (D) Mission complete করার time সব সমান হলে অবশ্যই W, X এর আগে এবং
Y, Z এর আগে base এ Return করবে।

64. (E) আমাদের সঠিক Option টি condition এর সাথে conflict করবে না।
Option A তে Z কে Y এর আগে fly করতে হয় যা condition এর সাথে contradictory.
Option B, C ও D তে Xকে W এর আগে fly করতে হয় যা contradictory.
শুধুমাত্র Option E তে সঠিক flight schedule আসে
W, Y, X, Z অথবা
W, Y, Z, X.

Questions 65-66

65. (B) তিন ভাই-ই একটি কথা সত্য এবং অপর কথাটি মিথ্যা বলে।
আমরা দেখতে পাই,
Rahim এর 2nd statement এবং Karim এর 1st statement একই।
আবার Karim এর 2nd statement এবং Babul এর 1st statement একই।

Babul এর 2nd statement টি ছিল "I do not know who did it."
অর্থাৎ "আমি জানিনা এটা কে করেছে।"Question অনুসারেএইstatement টি False হবে।
তাই Babul এর 1st statement টি True হবে।সেক্ষেত্রে conversation এর structure দাড়ায়।

	1st statement	2nd statement
Rahim	True	False
Karim	False	True
Babul	True	False

Structure থেকে দেখি Karim এর 1st statement এবং Rahim এর 2nd statement 'False'.
So, Karim broke the lamp.

66. (C) Rahim, green shirt পড়ে আছে। আবার Rahim এর 1st statement টি 'False' কারণ এরা তিন জনই brother. তার মানে, Rahim এর 2nd statement টি 'True' এবং eldest brother, red shirt পড়ে আছে।
আবার Babul এর 1st statement টি True. তাই 2nd statement টি False এবং Karim, eldest brother নয়।
সেক্ষেত্রে Karim এর 2nd statement ও False হবে এবং 1st statement True হবে। So, Karim is wearing a blue shirt.

	1st statement	2nd statement
Rahim	False	True
Karim	True	False
Babul	True	False

	Color of Shirt
Rahim	Green
Karim	Blue
Babul	must be Red

Puzzle 2

67. (E) যেহেতু conditionally Y ও Q এবং N ও Q একই টিমে থাকতে পারবেনা তাই Team গঠন করা যায়:

BBA (2 জন)	MBA (3 জন)	
X Y	(M/P) O N	Row 1
Y Z	(M/P) O N	Row 2
Z X	(M/P) O (N/Q)	Row 3

Table থেকে দেখা যায় সব Team এই O আছে।

68. (E)Z কে বাদ দিয়ে XY কে নিয়ে BBA Team গঠন করলে Q থাকতে পারবে না (Question 67 এর Table এর Row 1থেকে)।

69. (D)Y Team এ থাকলে Q থাকতে পারবে না। তাহলে ৩ জন MBA থেকে নিতে গেলে N ও Oকে নিতেই হবে (Question 67 এর Table থেকে)।

70. (D) Question 67 এর Table থেকে পাই Row 2 তে 5 জন - Y, Z, M, O, N; or, Y, Z,P, O, N.

71. (A) Question 67 এর Table থেকে পাই সব Row তেই M এর পরিবর্তে P কে বসালে Valid Team পাওয়া যায়।

72. (B) Question 67 এর Table এর Row 3 থেকে দেখি Q কে Team এ include করতে হলে Xও Zকে Team এ রাখতে হবে।

Puzzle 3

73. (B) Conditionally, Susmita আর Rumana same Office share করবে। তার মানে, এই দুইজন অন্য কারো সাথে বসতে পারবেনা। তাহলে option A ও E eliminated হয়ে যায়।
আবার, Nadira, Zamil অথবা Mirza-র সাথে office share করতে পারবেনা। So, option C ও D eliminate করা যায়।
So, the answer is B.

74. (E) Nadira, alone একটি office এ assigned হলে seating arrangement হতে পারে।

Susmita-Rumana	Susmita-Rumana
Nadira	Nadira
Bashar	Bashar-Zamil/Mirza
Zamil	Zamil/Mirza
Mirza	

অর্থাৎ Nadira, alone বসলে Bashar, Zamil ও Mirza, single office নিয়ে বসতে পারে অথবা তিন জনের দুই জন office share করে বাকী একজন single office এ থাকতে পারে।
সেক্ষেত্রে Total 4 টি অথবা 5 টি office লাগবে।

75. (D) Question 74 এর Table এর Left side এ দেখতে পারি Susmita ও rumana office share করে বাকীরা Single office occupy করলে total 5 টি office লাগে।

MBA (IBA)

Admission Test Question 2012 (June) with Solution

PART 1: Multiple Choice Questions (MCQs)

Section 1- Language

30 Questions, 30 Marks

Questions 1 to 3

Instruction: Fill in the blanks with the option that preserves the meaning of the sentence in context.

1. Given the importance of the project to the country and the region, the mediator deeply regrets that both parties were_____ agreement.
   (A) opposed to an amiable
   (B) acquiescent to a feasible
   (C) unwilling to arrive at a divisive
   (D) amenable to a congenial
   (E) unable to reach a workable

2. Authorities said laws must be tightened to deal with financial _____ while commentators attacked the banking culture, saying something had gone very wrong with an industry that resorted to _____ methods to make money.
   (A) abuses, deceitful
   (B) mismanagement, fiduciary
   (C) distress, credit
   (D) institutions, intermediary
   (E) crime, pecuniary

3. Air pollution is one of today's biggest _____ problems, a _____ serious threat to the health of city dwellers.
   (A) natural, eradicating
   (B) latent, causing
   (C) global, harming
   (D) urban, posing
   (E) industrial, involving

Questions 4 to 5

Instruction: A sentence is given with a pair of underlined pans. Select the option that changes the meaning of the sentence to its opposite when it replaces the underline parts.

4. In spite of stanch opposition, the decision was deemed wise for implementation by the authorities.
   (A) Because of, proper
   (B) Despite, unwise
   (C) Due to, imprudent
   (D) In accordance to, sensible
   (E) Notwithstanding, hasty

5. Contrary to usual practice, an inconsistent message has been conveyed by the otherwise resolute speaker.
   (A) an anomalous, decisive
   (B) a coherent, fickle
   (C) an unswerving, decisive
   (D) an unfailing, reliable
   (E) an erratic, indecisive

Questions 6 to 8

Instruction: Choose the option that expresses the same meaning as in the preceding sentence.

6. The speaker was delivering his speech in a roundabout manner, failing to address the main issue. He was_____
   (A) barking up the wrong tree
   (B) being the devil's advocate
   (C) beating about the bush
   (D) going out on a limb
   (E) head over heels

7. All the other students made fun of the boy for wearing a bowtie. He felt _____.
   (A) desperate
   (B) delighted
   (C) endorsed
   (D) elated
   (E) derided

8. "Please, please, don't give up, now that you are so close to the end". She_____.
(A) implored (B) expressed (C) enforced
(D) prayed (E) explained

Questions 9 to 11

Instruction: Choose the appropriate form of the word/words to fill in the blank for each sentence.

9. The bag of seeds _____ open.
(A) slitted (B) had slit (C) had been slit
(D) were slitted (E) were slit.

10. The father clearly _____ as his little one threw a tantrum inside the toy store.
(A) was abash (B) was abashed (C) abashed
(D) was in abash (E) in abashment

11. I understand that you spoke out of anger but what has been said cannot be retracted. So don't apologize, there is no point in _____.
(A) crying over spilt milk (B) crying your heart out (C) crying out loud
(D) crying at all (E) crying in vain

Questions 12 to 14

Institution: Choose the most appropriate SYNONYM to each of the words in capital letters.

12. WITHER
(A) Fade (B) Bloom (C) Harass (D) Gather (E) Stress

13. INDIGNANT
(A) Insolent (B) Indigent (C) Elated (D) Offended (E) Obtrusive

14. ORDEAL
(A) Promising (B) Suffering (C) Bemusing (D) Consequence (E) submission

Questions 15 to 19

Instruction: Identify the sentence(s) that is/are showing the correct use of the underlined word.

15. (i) Admiral Hamid sent a small group to reconcile the enemy positions secretly.
(ii) There was severe misappropriation of funds as evidenced by the failure to reconcile accounts.
(iii) The friends helped Jamila and Nilu to reconcile their trifle differences.
(A) i only (B) both i & ii (C) both i & iii
(D) both ii & iii (E) all three

16. (i) A belated apology is better than none at-all.
(ii) The guard belatedly realized the implication of the questions asked by the interrogator; the damage, however, was already done.
(iii) When you are given a task, it is naturally expected that you do not belate it.
(A) i only (B) both i & ii (C) both i & iii
(D) both ii & iii (E) all three

17. (i) The time I stood near the top of the mountain, I felt belittled by the magnificence that lay before me.
(ii) Don't belittle yourself all the time; I believe it would do you good to be a little modest sometimes.
(iii) You cannot term me a feminist for only protesting his continuous belittlement of women all the time.
(A) both i & ii (B) both ii & iii (C) both i & iii
(D) ii only (E) all three

18. (i) As a conscientious person, I cannot condone such heinous behavior.
(ii) The judge rightfully adjudicated and condoned-the criminal act.
(iii) The police have condoned the area so that the criminals cannot escape.
(A) i only (B) ii only (C) iii only (D) both i & ii (E) both ii & iii

19. (i) She has ample scope to rectify her mistake, since the teacher is kind-hearted.
(ii) The authorities announced they would bring in a bulldozer to rectify down the illegal structures.
(iii) If there is no rectification of the errors, we will be compelled to discard the set of question.
(A) i only (B) ii only (C) iii only (D) both i & ii (E) both ii & iii

Questions 20 to 23

Instruction: Select the option that is similar in meaning to the underlined word BUT has a negative connotation.

20. The activists pleaded to the public to take a stand against corruption and mis-governance.
(A) urged (B) begged (C) implored to (D) importuned (E) appealed to

21. The Director was very determined to get his plans approved before the new year started.
(A) resolute (B) firm (C) unwavering (D) obstinate (E) driven

22. You do not always see a man with a generous heart and no ulterior motive.
(A) an extravagant (B) an open (C) a charitable (D) a giving (E) a philanthropic

23. I had been extremely thrifty with my money so that I don't have to ask my parents for any amount.
(A) prudent (B) miserly (C) economical (D) cautious (E) careful

Questions 24 to 26

Instruction: Each sentence is followed by five alternative versions of the underlined portion. Select the alternative that you consider as most appropriate. Answer A is same as the original version.

24. The boy showed more interest in video games than either studies or sports.
(A) either studies or sports (B) in either studies or in sports
(C) either in studies or sports (D) in either studies or sports
(E) either studies or in sports

25. Certain old cars hold a particular fascination for those people who belief in they will find it challenging to repair it.
(A) who belief in they will find it challenging to repair it
(B) who believe they will find it challenging to repair it
(C) who believe in finding it challenging to repair it
(D) who believe to find it challenging to repair it
(E) who believe they find it challenging to repair it

26. The board reviewing the curriculum have found numerous courses that have become outdated and others that have become redundant in a changing world.
    (A) The board reviewing the curriculum have found numerous courses that have become outdated, and others that have become redundant in a changing world.
    (B) The board is reviewing the curriculum have found numerous courses that have become outdated, and others that have become redundant in a changing world.
    (C) The board reviewing the curriculum has found numerous courses that became outdated, and others have become redundant in a changing world.
    (D) The board reviewing the curriculum has found numerous courses that became outdated, and others that have become redundant in a changing world.
    (E) The board reviewing the curriculum has found numerous courses that have become outdated, and others that have become redundant in a changing world.

Question 27 to 28

Instruction: Read the following passage and select the best answer for each of the question that follows.

An international development agency recently collaborated with a local non-govt. organization (NGO) to design and implement business training programs targeted towards underprivileged young girls in various parts of Bangladesh. The trainees were all from poor families, some of which were quite conservative. The training seemed to have benefited the girls and their families as a number of trainees have set up their own small businesses that are flourishing. Based on the success, the development agency is planning to replicate the project in three other districts in Bangladesh.

27. Which of the following, if true, would cast serious doubt on the efficacy of the training program?
    (A) The conservative families permitted their girls to receive training only because they were hoping to enter into some form of business.
    (B) The girls' parents have not gone on to start businesses on their own.
    (C) A project can be successfully replicated if the implementing agencies are the same.
    (D) Other poor girls from the same regions, who did hot receive training, have also started successful businesses due to improving economic conditions.
    (E) Not all NGOs are equipped to provide training programs, particularly in business.

28. Which of the following, if true, would make replication of the project unachievable?
    (A) The fund allocated for the first project has been fully utilized and the development agency has to use money from a new fund for the new project.
    (B) The girls from conservative families did not go on to start businesses, and there is a predominance of conservative families in the three districts.
    (C) The businesses that the girls have set up are small in nature, creating very little employment opportunities.
    (D) The means of promoting the girls' businesses are primitive, much like Morse code is a primitive form of communication.
    (E) There are many more underprivileged girls in the three districts than in the regions where the training programs were implemented.

Question 29 to 30

Instruction: Read the following passage and select the best answer for each of the question that follows.

A proposal to declare a whale sanctuary in the South Atlantic Ocean has been defeated at the International Whaling Commission (IWC) annual meeting. Latin American countries had argued that declaring a

sanctuary would help whale conservation and whale-watching. However, delegations opposing the motion said there was no need for it. They pointed out that, as there is already a global moratorium on commercial whale hunting, adding a sanctuary here was unnecessary. Even some delegates voting for the sanctuary said in private that it was principally a symbolic issue.

29. Which of the following best describes the paragraph?
(A) An update on the state of whaling and whale-watching practices.
(B) A commentary on eroding morality and unethical practice.
(C) A reportage on an event with presentation of opposing stances.
(D) A critique on the hypocrisy of policy-makers.
(E) A verdict on the state of indifference towards global issues.

30. Which of the following, if true, would most likely have swayed those who opposed the motion?
(A) A ban on commercial whale hunting may save some animals, but it does not provide the necessary breeding ground like sanctuaries do.
(B) Commercial whale hunting may have been banned, but sporadic hunting is still continuing.
(C) The vote was a symbolic issue, as identified by some of those who voted for it.
(D) Whale-watching is very popular among Europeans and Americans as well as people from other countries, generating income for countries where whale-watching is possible
(E) None of the above.

Section II: Mathematics — 30 Questions, 30 Marks

Instruction: DO NOT USE A CALCULATOR. Figures are not drawn to scale.

31. Sanwar spent 20% of his salary for food, 30% for apartment rent, and 25% for other expenses. If the remaining Tk. 3500 were his monthly savings, how much (Take) .was his apartment rent?
(A) 2400 (B) 3600 (C) 4200 (D) 4500 (E) none of these

32. Two numbers when divided by a certain divisor leave remainders of 271 and 159 respectively. When the sum of these two numbers is divided by the same divisor, the remainder is 147. What is the divisor?
(A) 205 (B) 237 (C) 258 (D) 283 (E) none of these

33. If it takes Sohel 6 days to paint the apartments of a building and it takes Kamal 8 days to do the same job, how long would it take to do the job if both painters worked together simultaneously?
(A) 24/7 days (B) 18/7 days (C) 32/7 days (D) 48/7 days (E) none of these

34. A vendor sells 60 percent of mangoes he has and distributes 15 percent of the remainder to the poor. Next day he sells 50 percent of the remainder and distributes the rest to the poor. What percent of his mangoes did the vendor distribute to the poor in two days?
(A) 17% (8) 23% (C) 27% (D) 34% (E) none of these

35. If the area of a square with sides of length 8 centimeters is equal to the area of a rectangle with a width of 4 centimeters, what is the perimeter of the rectangle in centimeters?
(A) 16 (B) 20 (C) 32 (D) 40 (E) none of these

36. If $2/x = 5$ and $3/y = 15$, then $x-y=?$
(A) 1/3 (B) 1/5 (C) 3/5 (D) 4/15 (E) none of these

37. If $p < q < r < s$, then which of the following must be true?
(A) $rs > pq$ (B) $ps > qr$ (C) $(q-p) < (s-r)$ (D) $(q-p) > (s-r)$ (E) none of these

38. A certain integer n when divided by 5 yields a remainder of 4.
Which of these cannot be an integer?
(A) n/4 (B) n/6 (C) n/7 (D) n/10 (E) none of these

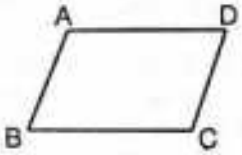
39. X can easily reach his office in time because of less traffic in the road in the morning. But due to traffic jam in the afternoon, his return trip requires 40 minutes more than his trip to office from home. Find the distance between the office and the home if the average speed when going to office is 60 km/hr and average speed when returning home is 30 km/hr.
(A) 32 kms (B) 40 kms (C) 48 kms (D) 52 kms (E) none of these

40. Faruk can complete a job in 12 hours, and Jamal can complete the same job in 8 hours. Faruk starts the job at 9 a.m., and stops working at 3 p.m. If Jamal starts working at 4 p.m. to complete the job, at what time is the job finished?
(A) 6 p.m. (B) 7 p.m. (C) 8 p.m. (D) 10 p.m. (E) 12 p.m.

41. In the diagram, AB is parallel to DE.
$\angle BAC = 150°$ and $\angle ACD = 100°$. Calculate the value of $\angle CDE$.
(A) 110° (B) 120° (C) 145°
(D) 150° (E) none of these

42. An NGO hired some volunteers. If 55% of the volunteers hired were male, and the remaining 180 were female, how many volunteers were hired?
(A) 320 (B) 400 (C) 450 (D) 480 (E) none of these

43. The average of x and y is 40 and the average of y and 7 is 35. What is the value of x - z?
(A) 5 (B) 10 (C) 15
(D) 20 (E) none of these



44. The rhombus ABCD has diagonals intersecting at X, with BC = 13 cm and CX = 5 cm. Calculate the area of the rhombus in cm2
(A) 65 (B) 90 (C)120 (D) 130 (E) none of these

45. If the symbol ∇ is such that $[a \nabla b = (a + b)^2]$, then $[a \nabla (1-a)] \nabla (a^2-1) = ?$
(A) a^4 (B) $4a^2$ (C) a^5 (D) a^3-1 (E) none of these

46. If n is an integer greater than 5, then factorial n (n!) must be divisible by which of the following numbers?
(A) 7 (B) 11 (C) 12 (D) 13 (E) 14

47. The sum of 7/8 and 1/9 is between_____
(A) 1/2 and 3/4 (B) 3/4 and 1 (C) 1 and 5/4 (D) 5/4 and 3/2 (E) 3/2 and 2

48. Three years ago, Babu was two times as old as of Ashraf. Six years ago, Babu's age was one half of that of Sharif. If S represents Sharifs current age, which of the following represents Ashraf's current age?
(A) S/4 + 3 (B) S/2 + 4/3 (C) S/3 – 3 (D) 2S/3-1 (E) none of these

49. Given that x and y are integers and $x + y < 10$, and $x > 5$, what is the smallest possible value of $x \cdot y$?
(A) 0 (B) 1 (C) 2 (D) 3 (E) none of these

50. The radius of a circle is decreased by 10%. By what percent will its area decrease?
(A) 10 (B) 12.5 (C) 17.5 (D) 19 (E) none of these

51. The average (arithmetic mean) of 8 numbers is 6. When two more numbers are added to the 8 numbers, the new average of all the 10 numbers is 7. What is the average of the two numbers added?
(A) 11 (B) 12 (C) 15 (D) 22 (E) none of these

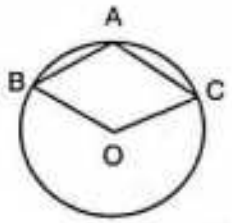
52. A trader buys two articles for Tk. 800. He sells one of them at a profit of 20% and the other at a loss of 12% and makes no profit or loss in the end. What is the selling price of the article that he sold at a loss?
(A) Tk. 300 (B) Tk. 360 (C) Tk. 400 (D) Tk.500 (E) none of these

53. x and y are positive integers and $10x/(x + y) + 20y / (x + y) = k$.
What could be the value of k if $x < y$?
(A) 10 (B) 12 (C) 15 (D) 18 E) none of these

54. By selling an article for Tk. 72, a merchant incurs a loss of 10%.
What should the selling price (Taka) be if he should gain 5%?
(A) 88 (B) 84 (C) 80 (D) 78 (E) none of these

55. Find the range of real values of x satisfying the inequalities $3x - 2 > 7$ and $4x - 13 > 15$.
(A) $x > 3$ (B) $x > 7$ (C) $x < 7$ (D) $x < 3$ (E) none of these

56. 0 is the centre of the circle. If $\angle ABO = 55°$ and $\angle ACO = 65°$, calculate the value of $\angle BAC$.
(A) 110° (B) 120° (C) 130°
(D) 145° (E) cannot be determined



57. If $xy < 0$, then which of the following must be true?
(A) $(x + y)^2 > (x^2 + y^2)$ (B) $(x + y)^2 < (x^2 + y^2)$
(C) $(x + y)^2 > (x^2 + y^2)$ (D) both A and C (E) none of these

58. If $(x + 2)^2 = 9$ and $(y + 3)^2 = 25$, then the maximum value of $\frac{x}{y}$ is:
(A) 1/2 (B) 5/2 (C) 5/8 (D) 1/8 (E) none of these

59. A number when divided by a divisor leaves a remainder of 24.
When twice the original number is divided by the same divisor, the remainder is 11. What is the value of the divisor?
(A) 13 (B) 59 (C) 35 (D) 37 (E) none of these

60. In what ratio should a 20% sugar solution be mixed with a 50% sugar solution so that the resultant solution has 40% sugar in it?
(A) 1 : 2 (B) 2 : 1 (C) 1 : 3 (D) 2 : 3 (E) none of these

Section III: Analytical Ability — **15 Questions, 15 marks**

61. It is true that increasing demand for a limited number of products drives up the price of those products. However, if we cut tax rates, then people will retain a higher percentage of their income and will be encouraged to work harder and produce more. Therefore, the increase in demand resulting from greater disposable income will not result in higher prices for the products available. In the passage above, the author makes which of the following arguments?
(A) Reducing taxes is likely to result in less disposable income.
(B) Reducing taxes is likely to decrease demand.
(C) Reducing taxes can fail to result in greater disposable income.
(D) Reducing taxes will probably restrict the availability of certain products.
(E) Reducing taxes will not necessarily lead to increased prices.

62. Blocks of buildings of a five star hotel in Dhaka range from three to five stories in height. If a guest room is above the first floor, it has a fire escape. If the above statements are true, which of the following must also be true?
(A) First-floor rooms in the hotel do not have fire escape.
(B) Fire escapes are allowed but not required for first-floor guest rooms.
(C) Some buildings of the hotel have no fire escapes.
(D) Not all five star hotels have proper fire escapes.
(E) Second-floor guest rooms in the hotel have fire escapes.

63. If your watch was made after 1972, it is quartz powered.
The statement above can be deduced logically from which of the following statements?
(A) Only if a watch was made after 1972 could it be quartz powered.
(B) All watches made after 1972 are quartz powered.
(C) Some watches made before 1972 were quartz powered.
(D) Some quartz powered watches are found made after 1972.
(E) Quartz powered watches were fully developed only after 1972.

64. "IBA students are good in debating." The statement above can be deduced logically from which of the following statement?
(A) IBA students have English medium schooling background
(B) Debating is a pan of the curriculum at IBA.
(C) IBA students bring awards from home and abroad in debating every year.
(D) IBA has a debating club.
(E) All of the above

Questions 65 to 68

All security door locks manufactured by Door Seal Combination Lock Company have a combination that consists of four elements ---- a one-digit number, a two-digit number, and two letters of the alphabet. Each combination conforms to the following rules:

i. The one-digit number is the first element in the combination.
ii. The two letters of the alphabet are not adjacent in the combination.
iii. The two-digit number consists of two different numerals.
iv. The two-digit number has no numerals in common with the one-digit number.

65. Which of the following is a sequence of elements that conforms to the rules?
(A) 6-73-D-M (B) 2-X-37-G (C) 39-H-Y-6
(D) H-24-K-4 (E) 9-B-89-B

66. Which of the following is a sequence of elements that conforms to the rules?
(A) The second element is a two-digit number.
(B) The third element is a letter of the alphabet.
(C) The third element is a one-digit number.
(D) The fourth element is a two-digit number.
(E) The fourth element is a letter of the alphabet.

67. Which of the following CANNOT be the first element of a combination that has K-53-J as its second, third, and fourth elements?
(A) 5 (B) 6 (C) 7 (D) 8 (E) 9

68. The sequence of elements 9-K-M-29 violates which of the rules given?
(A) ii only (B) iii only (C) ii and iv only
(D) iii and iv only (E) ii, iii, and iv

Questions 69 to 73

Seven students Farida, Juli, Keya, Mita, Rozy, Shirin, and Tuli are eligible to enter the currently running School Spelling Bee contest. From these seven, two teams must be formed - a red team and a green team, each team consisting of exactly three of the students. No student can be selected for more than one team. Team selection is subject to the following restrictions:

If Mita is on the red team, Keya must be selected for the green team.

If Farida is on the red team, Rozy, if selected, must be on the green team.

Rozy cannot be on the same team as Shirin. Juli cannot be on the same team as Keya.

69. Which of the following can be the three members of the red team?
(A) Farida, Juli, and Keya. (B) Farida, Rozy, and Tuli (C) Juli, Keya and Tuli
(D) Keya, Mita, and Rozy (E) Mita, Rozy, and Tuli

70. If Mita and Farida are both on the red team, the green team can consist of which of the following?
(A) Juli, Keya, and Rozy (B) Juli, Shirin, and Tuli (C) Keya, Rozy, and Shirin
(D) Keya, Rozy, and Tuli (E) Rozy, Shirin, and Tuli

71. If Mita is on the red team, which ofthe following, if selected, must also be on the red team?
(A) Farida (B) Juli (C) Rozy (D) Shirin (E) Tuli

72. If Farida is selected for the red team and Tuli is not selected for either team, then which of the following CANNOT be a member of the green team?
(A) Juli B) Keya (C) Mita (D) Rozy (E) Shirin

73. If both Mita and Farida are in the red team, which of the following must be included in the green team?
(A) Shirin (B) Tuli (C) Juli (D) Rozy (E) any of these

Questions 74 to 75

Instruction: Each of the following problems has two statements which are labeled (i) and (ii). Use the data given in (i) and (ii) to decide whether the statements are sufficient to answer the questions.

74. What is the value of integer n?

(i) $n(n+1) = 6$ (ii) $2^{2n} = 16$

(A) Statement(i) ALONE is sufficient, but statement(ii) alone is not sufficient
(B) Statement(ii) ALONE is sufficient but statement(i) alone is not sufficient
(C) BOTH statements TOOTHER are sufficient, but NEITHER statement ALONE is sufficient
(D) EACH statement ALONE is sufficient
(E) Statements (i) and (ii) TOGETHER are not sufficient

75. Is $xyz = 1$?

(i) $xy = 1$ (ii) $yz = 1$

(A) Statement(i) ALONE is sufficient, but statement(ii) alone is not sufficient
(B) Statement(ii) ALONE is sufficient but statement(i) alone is not sufficient
(C) BOTH statements TOOTHER are sufficient, but NEITHER statement ALONE is sufficient
(D) EACH statement ALONE is sufficient
(E) Statements (i) and (ii) TOGETHER are not sufficient

Part II: Writing Ability **20 Marks**

A. Narrate your experience of a rainy day. [15]
(Use the space provided in this page and the next to answer this question)

B. Write a short note on the theme "A friend in need is a friend indeed." [5]

ANSWER KEY

Section I: Language and Communication

1.E	2.A	3.D	4.C	5.B	6.C	7.E	8.A	9.E	10.B
11.A	12.A	13.D	14.B	15.D	16.B	17.B	18.A	19.A	20.D
21.D	22.A	23.B	24.D	25.C	26.E	27.D	28.B	29.C	30.A

Section II: Mathematics

31.C	32.D	33.A	34.B	35.D	36.B	37.E	38.D	39.B	40.C
41.A	42.B	43.B	44.C	45.A	46.C	47.B	48.A	49.D	50.D
51.A	52.E	53.D	54.B	55.B	56.E	57.B	58.C	59.D	60.A

Section III: Analytical

61.E	62.E	63.B	64.C	65.B	66.E	67.A	68.C	69.E	70.D
71.B	72.E	73.B	74.B	75.E	-	-	-	-	-

Solution of MBA Admission Test 2012 (June)

Section I: Language and Communication

1. (E) Country এবংregion এর উপর গুরুত্ব দিয়ে mediator (মধ্যস্থতাকারী) গভীর অনুতাপ প্রকাশ করলেন যে উভয় দল একটি workable (কার্যকর) agreement এ পৌঁছুতে পারেনি।

2. (A) কর্তৃপক্ষের মতে অর্থনৈতিক অসদব্যবহার (abuses) ঠেকাতে আইন অবশ্যই কড়া হওয়া উচিত, যখন commentator রা banking সংস্কৃতিকেই আক্রমণ করছেন এই বলে যে এই industry টাকা উপার্জনের জন্য deceitful (ভ্রান্তিমূলক/প্রবঞ্চনামূলক) পন্থা অবলম্বনে যাচ্ছিলো।

3. (D) Air pollution বৃহত্তর শহরে (urban) সমস্যাগুলোর মধ্যে একটি, শহরবাসীদের প্রতি এটি বর্তমানে (posing) বড় হুমকি।

Question 4 and 5: এখানে Instruction অনুযায়ী এমন sentence খুঁজে বের করতে হবে যেটি questionএ দেয়া sentence টির meaning পরিবর্তন করে।

4. (C)Main sentence: তীব্র বিরোধিতা সত্ত্বেও (in spite of), সিদ্ধান্তটি কর্তৃপক্ষের দ্বারা কার্যকর করা বিচক্ষণ (wise) মনে হচ্ছিল।
Sentence with changed meaning: তীব্র বিরোধিতা কারনে (due to), সিদ্ধান্তটি কর্তৃপক্ষের দ্বারা কার্যকর করা অবিচক্ষণ মনে হচ্ছিল।

5. (B) Main sentence: Usual (স্বাভাবিক) practice না করে, একটি অসঙ্গতিপূর্ণ (inconsistent) message অন্যরকম সংকল্পবদ্ধ (resolute) বক্তার দ্বারা বহন করা হচ্ছিল।
Sentence with changed meaning:Usual (স্বাভাবিক) practice না করে, একটি সঙ্গতিপূর্ণ (coherent) message অন্যরকম খামখেয়ালীপূর্ণ (fickle) বক্তার দ্বারা বহন করা হচ্ছিল।

6. (C) 'beating about the bush' মানে হলো অপ্রাসঙ্গিক কথাবার্তা বলা। roundabout manner এ speech দিয়ে যাওয়ার সাথে এই idiom টি সঙ্গতিপূর্ণ।

7. (E) সব student রা ছেলেটিকে নিয়ে fun করছিলো, তাই সে derided (অপমানিত) বোধ করছিলো।

8. (A) "অনুগ্রহ করে এখুনি হাল ছেড়ো না, আমরা প্রায় শেষের কাছাকাছি চলে এসেছি" সে implore (অনুনয় করা) করল।

9. (E) অন্যগুলো grammatically incorrect. বীজ (seeds) ভরা bag গুলো কেটে ফেলা হয়েছিলো।

10. (B) অন্যগুলো grammatically incorrect. বাবা পুরোপুরি লজ্জিত হয়ে পড়েছিলেন (was abashed).

11. (A) crying over spilt milk মানে হলো যা হয়ে গেছে তা নিয়ে মন খারাপ করা।

12. (A) wither মানে হলো শুকিয়ে যাওয়া (fade).

13. (D) Indignant মানে হলো ক্রোধান্বিত হওয়া (offended).

14. (B) Ordeal মানে হলো কষ্ট (suffering).

15. (D) reconcile মানে হলো মিটমাট করে ফেলা বা ঠিক করে ফেলা। sentence (ii) এবং (iii) তেই সঠিকভাবে এর ব্যবহার হয়েছে।

16. (B) Sentence (iii) তে belate কে verb হিসেবে use করা হয়েছে যা incorrect. Sentence (i) and (ii) সঠিক।

17. (B) Sentence (i) এ belittle এর ভুল প্রয়োগ হয়েছে। belittle মানে হলো ছোট করা/হেয় প্রতিপন্ন করা। Sentence (ii) and (iii) ঠিক আছে।

18. (A) condone মানে হলো কোনকিছু দেখেও না দেখার ভান করা, উপেক্ষা করা, ক্ষমা করে দেয়া। Sentence (i) এই কেবল এর use টা সঠিক।

19. (A) rectify মানে হলো শুদ্ধ করা। Sentence (i) এই কেবল এটা correctly use করা হয়েছে।

20. (D) plead মানে হলো ব্যাকুলভাবে কোন কিছু চাওয়া (earnestly beg করা), অপরদিকে importune মানে হলো কোনো অনৈতিক কিছু প্রার্থনা করা অথবা বারংবার চেয়ে বিরক্ত করা (insistently bother করা)। plead এবং importune এর মধ্যে meaning এ মিল থাকলেও এদের প্রয়োগ এ পার্থক্য আছে।

21. (D) determined মানে হলো সংকল্পবদ্ধ আর obstinate মানে হলো একগুঁয়ে, গোঁয়ার (stubborn)। D ছাড়া বাকি option গুলো আছে। determined এর মতো positive meaning carry করে। একমাত্র obstinate ই meaning এ মিল থাকলেও প্রয়োগ পার্থক্য

22. (A) generous মানে হলো সদয়, উদার। অন্যদিকে extravagant মানে হলো অমিতব্যয়ী (overgenerous) যা same কিন্তু negative meaning carry করে।

23. (B) thrifty অর্থ হচ্ছে মিতব্যয়ী,অর্থ খরচের ব্যাপারে সাবধানী; কিন্তু miserly মানে হচ্ছে কৃপণ। meaning একই রকম মনে হলেও প্রয়োগ বেশ ভিন্ন।

24. (D) grammatically, either এর পর যা বসবে or এর পরেও তার parallel ভাবে এই জিনিস বসাতে হবে। এখানে ২টিpossibility ছিলো-'either <u>in studies</u> or <u>in sports</u>' এবং 'in either <u>studies</u> or <u>sports</u>'। যেহেতু option এ 'either <u>in studies</u> or <u>in sports</u>' নেই, তাইanswer D.

25. (C) who এরপর এখানে verb লাগবে, belief কোন verb নয়, এটি একটি noun. Verb হচ্ছে believe. সুতরাং, option A বাদ। যেহেতু main clause টি past tense এ আছে, যদি পরে আর কোন clause make করা হয় তাও past tense এ হবে। এক্ষেত্রে option B এবং E eliminated কারণ এগুলো past form এ নেই। believe এর পর সবসময় in বসে। So, option D ও বাদ।

26. (E) এখানে main subject 'The board' যেটি singular, তাই option A বাদ। option B তে একটি noun এর বিপরীতে double verb (is এবং have) চলে এসেছে, তাই এটিও বাদ। option C এবং D তে verb গুলো (find, become এবং become) parallelism maintain করছে না, তাই এগুলো wrong. একমাত্র E তেই subject-verb agreement এবং tense এর parallelism maintain করা হয়েছে।

27. (D) Passage এ বলা হচ্ছে যে training টি সুবিধাবঞ্চিত মেয়েদের জন্য অনেক সুবিধা বহন করেছে কারণ অনেক প্রশিক্ষনার্থীরাই নিজেরা ব্যবসা শুরু করছে। Option D তে বলা হচ্ছে অন্য এলাকার মেয়ে যারা training নেয়নি এমন মেয়েরাও সফলভাবে ব্যবসা করে যাচ্ছে,এই statement টি passage এর উপর doubt cast করে।

28. (B) passage এ বলা হচ্ছে যে এখন agency টি আরো তিনটি জেলায় তাদের কার্যক্রম পরিচালনা করতে আগ্রহী, কিন্তু option B তে বলা হচ্ছে যে conservative (রক্ষণশীল) পরিবারের মেয়েরা business শুরু করে না আর agency টির ঐ তিনটি target district এর family গুলো বেশিরভাগই conservative। কাজেই option B true হলে project টি unachievable (সফল করা অসম্ভব)।

29. (C) passage টি পড়লে বোঝা যায় এর structure এবং language reportage এর মতো।

30. (A) Option A তে clearly বলা হচ্ছে যে sanctuary র বাড়তি সুবিধা হচ্ছে এটি whale গুলোর জন্য একটি গুরুত্বপূর্ণ প্রজনন ক্ষেত্র হবে যা কোন নিষেধাজ্ঞা (ban) দিয়ে নিশ্চিত করা যাবে না।

Section II: Mathematics

31. (C) Food + rent + other expense = 20% + 30% + 25% = 75%
বাকী (100% - 75%) = 25% হচ্ছে তার savings.
So 25% = Tk. 3500
1% = Tk. 140
And rent 30% = 140 x 30 = Tk. 4200

32. (D) The divisor is (271 + 159) – 147 = 283

33. (A) মোহেল একা ১ দিনে করে $\frac{১}{৬}$ অংশ

কালাম একা ১ দিনে করে $\frac{১}{৮}$ অংশ

তারা একসাথে করতে পারে ১ দিনে

$(\frac{১}{৬}+\frac{১}{৮})=\frac{৭}{২৪}$ অংশ কাজ।

তাই পুরো কাজটি সম্পন্ন হয় $\frac{২৪}{৭}$ দিনে।

34. (B) ধরি, মোট আমের সংখ্যা ১০০
প্রথম দিনে বিক্রি করে ৬০% = ৬০
গরীবদের মাঝে দেয় ৪০ × ১৫% = ৬
বাকি থাকল ১০০ – ৬০ – ৬ = ৩৪
দ্বিতীয় দিন বিক্রি করে ৫০% × ৩৪ = ১৭
এবং গরীবদের দেয়া বাকী ১৭ টি
তাই গরীবরা মোট পায় = ৬ + ১৭ = ২৩টি

35. (D) The area of the square is 8 × 8 = 64 sq. cm
The area of the rectangle = 64 = 4 × length
So length = 16
Rectangle's perimeter = 2 × (4 + 16) = 40

36. (B) $\frac{2}{x}=5$, so $x=\frac{2}{5}$

Again $\frac{3}{y}=15$, so $y=\frac{3}{15}=\frac{1}{2}$

$x-y=\frac{2}{5}-\frac{1}{5}-\frac{1}{5}$

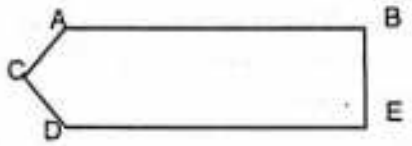
37. (E) Given that, $p < q < r < s$
p, q, r, s এর বিভিন্ন Positive এবং Negative মান বিবেচনা করে কোন inequality কেই must be true বলা যাবে না। তাই answer হবে none of these.

38. (D) $\frac{n}{10}$ কখনোই পূর্ণসংখ্যা হতে পারবে না। কারণ n যদি 10 দ্বারা divisible হয়, তাহলে এটি 5 দ্বারাও divisible হবে এবং কোনও remainder থাকবে না। তাই n, 10 দ্বারা divisible না।

39. (B) Let, the distance be 'x'
40 minutes = 2/3 hours
So we get $\frac{x}{30} - \frac{x}{60} = \frac{2}{3}$
Or, x = 40 km.

40. (C) ফারুক ৬ ঘন্টা কাজ করে (9AM – 3PM)
তাই সে $\frac{৬}{১২} = \frac{১}{২}$ অংশ কাজ শেষ করে।
বাকী $\frac{১}{২}$ অংশ কাজ জামাল করে,
জামালের $\frac{১}{২}$ অংশ কাজ করতে ৪ ঘন্টা লাগবে।
তাই কাজটি শেষ হবে রাত ৮ টায়।

41. (A) Point B ও E যোগ করি।
Sum of the interior angles of pentagon ABCDE is 540°
Here, AB is parallel to DE. So ∠B + ∠E = 180°
So ∠BAC + ∠ACD + ∠CDE = 540° – 180° = 360°
Again ∠BAC = 150° and ∠ACD = 100°
Hence ∠CDE = 110°



42. (B) 55% were male. So the remaining 45% volunteers were female.
45% = 180
100% = 400

43. (B) $\frac{x+y}{2} = 40$; x + y = 80 ..... (i)
And $\frac{y+z}{2} = 35$; y + z = 70 ..... (ii)
Subtracting equation (ii) from (i), we get- x – z = 10

44. (C) BC = 13, CX = 5 and ∠CXB = 90° (রম্বসের diagonal একে অপরকে লম্বভাবে ছেদ করে)
Now applying Pythagorean Theorem, BX = 12
So CA = 10 and BD= 24
Area of rhombus = ½ × 10 × 24 = 120 sq. cm.

45. (A) $[a \Delta (1-a)] \Delta (a^2-1)$
$= [a+1-a]^2 \Delta (a^2-1) = 1 \Delta (a^2-1) = (1+a^2-1)^2 = a^4$

46. (C) n!, where n>5 i.e. 'n' at least equals to 6
So n! = ... 6 x 5 x 4 x 3 x 2 x 1
It must be divisible by 12

47. (B) $\frac{7}{8}+\frac{1}{9}=\frac{71}{72}$

So it is between $\frac{3}{24}$ and 1.

48. (A) ধরি, আশরাফের বর্তমান বয়স = x
বাবুর বর্তমান বয়স= 2 (x-3) + 3 = 2x – 3
6 years' ago, Babu's age was 2x – 3 – 6 = 2x – 9
So 2x – 9 = ½ (S - 6)
4x – 18 = S – 6 or, 4x = S + 12 or, x = s/4 + 3

49. (D) x – y এর least value পাওয়ার জন্য x, y এর individual value একে অপরের সবচেয়ে কাছাকাছি হতে হবে।
Again, x + y < 10 and x > 5; So x = 6 and y = 3
Thus x – y = 6 – 3 = 3

50. (D) Let, previous radius = 10 and area = 100 π
After decreasing 10%, new radius = 9 and area = 81π
So, area decreased by 19%

51. (A) পূর্বের ৮ টি সংখ্যার যোগফল = 8 x 6 = 48
এখন ১০টি সংখ্যার যোগফল = 10 x 7 = 70
নতুন ২টির যোগফল = 70 – 48 = 22
Average = 11

52. (E) ধরি যেটি loss এ বিক্রি হয়েছে তার cost = x
So 12% of x = 20% of (800 - x); or, x = 500
So the cost price of the item = 500
Selling price = 500 – (500 x 12%) = 440

53. (D) 10x / (x+y) + 20y / (x+y) = k
Or, (10x + 20y) / (x+y) =k
Again, given that x, y are positive integers and x < y.
So considering x = 1 and y = 4, we get (10 + 80) / 5 = 18

54. (B) 10% Loss এ-
Cost Price 100 টাকা হলে Selling Price 90 অর্থাৎ S.P. 90 হলে Cost Price 100 টাকা
S.P. 72 টাকা হলে C.P. $\frac{১০০\times৯০}{৭২}$
= 80 টাকা
সুতরাং ৫% লাভে বিক্রয়মূল্য 80 + (80 x 5%)
= 84 টাকা

55. (B) $3x - 2 > 7$
$3x > 9$
$X > 3$
Again, $4x - 13 > 15$
$4x > 28$
$X > 7$
So both the equations will be satisfied if x is greater than 7.

56. (E) $\angle BAC + \angle BOC = 360° - (55° + 65°) = 240°$
এখন এই দুটি কোন আলাদাভাবে কত করে তা প্রশ্নে দেওয়া information থেকে বের করা যাবে না।
So it cannot be determined.

57. (B) $xy < 0$ means one of the values is negative and the other is positive.
Considering that, $(x + y)^2$ is always less than $(x^2 + y^2)$

58. (C) $(x + 2)^2 = 9$, or $x+2 = \pm 3$, or $x = 1, -5$
$(y + 3)^2 = 25$, or $y+3 = \pm 5$, or $y = 2, -8$
So maximum possible value of $x/y = -5 / -8 = 5/8$

59. (D) The divisor will be $(2 \times 24) - 11 = 37$
Ans. (D)

60. (A) 20% 50%

So the ratio is 10: 20 or 1: 2

Section III: Analytical Ability

61. (E) এখানে conclusion স্পষ্ট বলা আছে যে: "Therefore the increase in demand resulting from greater disposable income will not result in higher prices for the products available."
এখানে প্রশ্ন থেকে বুঝা যায়, "greater disposable income" মানে হচ্ছে reducedtax rate যা অপশন E তে বলা আছে।
সুতরাং এটিই answer হবে।

62. (E) first floor এর উপরে হলেই fire escape আছে তাই এটি নিশ্চিত যে, second floor এ fire escapes আছে।

63. (B) "If your watch was made after 1972, it is quartz powered." – এটা শুধুমাত্র বলা যাবেযদি আমরা জানি যে, 1972 এর বানানো সকল ঘড়িই quartz powered.

64. (C) Student দের background বা curriculum নিয়ে কখনোই এটি বলা যাবে না। কিন্তু যদি debating এ student রা award নিয়ে আসতে পারে, তাহলে এটি নিশ্চিত যে তারা debate এ ভালো

65. (B) (A) – The two letters of the alphabet are adjacent.
(B) –Correct answer.
(C) –The two letters of the alphabet are adjacent.
(D) – 4 is common in one digit and two digit numbers.
(E) – 9 is common in one digit and two digit numbers.

66. (E) (A) – First element is a one-digit number. So, third element will be the two-digit number.
(B)–First element is a one-digit number. So, third element will be the two-digit number.
(C) – Given that, First element is a one-digit number.
(D) –First element is a one-digit number. So, third element will be the two-digit number.
(E) –Correct Answer.

67. (A) 5 প্রথম element হিসেবে এই combination এ থাকতে পারবে না। কারন 5 দুই digit এর ল্যাথারটিতে আছে (K–53–J).

68. (C) 9–K–M–29
It violates rule-ii: The two letters of the alphabets cannot be adjacent in the combination.
It also violates rule-iv: The two-digit number has no numerals in common with the one-digit number.

69. (E) (A) – Juli cannot be in the same team as Keya.
(B) – If Farida is in red team, Rozy, if selected, must be on the green team.
(C) –Juli cannot be in the same team as Keya.
(D) – If Mita is in red team, Keya must be in the green team.
(E) –Correct combination.

70. (D) Mita red team এ থাকলে Keya অবশ্যই green team এ থাকবে।
আবার Keya green team এ থাকলে Juliএকই team থাকতে পারবে না।
Only acceptable combination from the options is Keya, Rozy, and Juli.

71. (B) Mita red team এ থাকলে Keya green team এ থাকবে। আবার Keya এবং Juli একই team এ থাকতে পারবে না।
তাই Juli selected হলে red team এ থাকবে।
So if Juli is selected, she must be on the red team.

72. (E) Tuli selected না হলে বাকী সবাই selected হবে। Farida red team এ থাকলে Rozy green team এ থাকবে। আবার Rozy ও Shirin একই team এ থাকতে পারবে না।
So Shirin cannot be a member of the green team.

73. (B) Mita ও Farida দুজনেই red team এ থাকলে, Keya এবং Juli দুজনেই green team এর জন্য selected হবে।

74. (B) i) $n(n+1) = 6$; or $n^2 + n - 6 = 0$
Or, $(n + 3)(n - 2) = 0$
Or, $n = -3, 2$
So data (i) does not provide a specific value of n.
ii) $2^{2n} = 16$; or $2^{2n} = 2^4$
Or, $2n = 4$
Or, $n = 2$
So only data (ii) individually provides the value of n.

75. (E) $xyz = 1$
i) $xy = 1$
এখানে x ও yদুটির value 1অথবা দুটিই –1হতে পারে।
ii) $yz = 1$
এখানে y ও z দুটির value 1অথবা দুটিই–1 হতে পারে।
If all the values are equal to 1, then $xyz = 1$.
But if all the values are equal to –1, then $xyz = -1$.

MBA (IBA)

Admission Test Question 2012 (December) with Solution

PART I: Multiple Choice Questions (MCQs)

Section I: Language

Question 1 to 10 — **30 Questions, 30 Marks**

Instruction: Choose the most appropriate word(s)/phrase to fill in the blanks in the following sentences.

1. I admire her for her _____ of composure in the face of extreme opposition and antagonism she has been facing from her colleagues.
(A) semblance (B) show (C) behavior (D) resolution (E) maintenance

2. Just as there are occupations that require college degrees, _____ occupations for which technical trainings are necessary.
(A) so to there are (B) so also there are
(C) so there are (D) so too are there (E) none of these

3. It was expected that _____his plane landed, his fans _____mad with excitement.
(A) as soon as, would go (B) as soon as, went
(C) no sooner had, had gone (D) no sooner has, went (E) as, went

4. After spending hours listening to his boring jokes, I cracked under pressure and said to my friend I _____ enough of his jokes for one day.
(A) have had (B) have (C) had had (D) had (E) having had

5. I don't know how I ended up pledging myself to the cause of both parties; I am in such a_____.
(A) turmoil (B) loss (C) fool (D) state (E) predicament

6. We have _____ the rules in order to simplify the process.
(A) come up for (B) done away with (C) put with (D) go with (E) get rid with

7. Our family has always _____ each other, and that's why our children have grown up to be confident people.
(A) looked at (B) come up for (C) get on to(D) got out for(E) looked out for

8. _____the less interested we have become in our religion.
(A) The further the science progressed, (B) The further the science has progressed,
(C) The more the science progressed, (D) As the science progressed,
(E) Since the science has progressed,

9. _____ about the need to educate people on national energy security, the speaker stressed the importance of conserving electricity.
(A) During the talk (B) While the talk
(C) In the event of talking (D) A talk
(E) While the talking

10. Fearing failure in face of opposition, the Principal _____ behind her colleagues to change the system.
(A) condoned (B) performed (C) connived (D) worked (E) concocted

Questions 11 to 15

Instruction: For each question, choose the option where the prefix or suffix has NOT been properly used.

11. (A) Undoubtedly	(B) Unabated	(C) Incoherent	(D) Undiluted	(E) None of these
12. (A) Scientifical	(B) Biological	(C) Psychological	(D) Astronomical	(E) None of these
13. (A) Multilateral	(B) Multiplan	(C) Multiplex	(D) Multitrend	(E) None of these
14. (A) Malpractice	(B) Malfunction	(C) Malnutrition	(D) Malcontent	(E) None of these
15. (A) Reversable	(B) Separable	(C) Acceptable	(D) Manageable	(E) None of these

Questions 16 to 19

Instruction: Underlined parts of the following sentences may contain error(s) in grammar, diction, usage or idiom. Choose the underlined portion that is incorrect. If there is no error, then select E.

16. Dresses of those kind are not liked by young women, short dresses are preferred. No error.
A B C D E

17. Everyone who visits Dhaka is appalled by its dirtiness, which is mainly a result of lenient
A B C
execution of their laws. No error
D E

18. Students do not object to his delivering the lecture as long as he does not make subjective
A B
evaluation about them. No error.
C D E

19. She sat down besides the terrified boy and tried to assure him that she is not going to abandon
A B C D
him. No error
E

Questions 20 to 24

Instruction: Choose the most appropriate SYNONYM to the word in capital letters.

20. COMMOTION				
(A) Abnormal	(B) Emotion	(C) Illogical	(D) Turmoil	(E) Sensation
21. DELINQUENT				
(A) Bold	(B) Profuse	(C) Mild	(D) Offending	(E) Super
22. RIFE				
(A) Slight	(B) Right	(C) Speaking	(D) Narrow	(E) Extensive
23. STAUNCH				
(A) Dissolute	(B) Steadfast	(C) Sacrifice	(D) Forfeit	(E) Surrender
24. CAPITULATE				
(A) Submit	(B) Suggest	(C) Imply	(D) Entail	(E) Cause

Questions 25 to 27

Instruction: Read the following passage and select the best answer for each of the question that follows.

People say money doesn't buy happiness. However, according to a new study from Princeton University's Woodrow-Wilson School, it apparently does, at least up to about $75,000 a year. The lower a person's annual income falls below that benchmark, the unhappier he or she feels. But no matter how much more than $75,000 people make, they don't report any greater degree ofhappiness. Experts caution employers not to rush to hold or raise everyone's salary to $75,000, as the study points out that there are actually two types of happiness. There's your changeable, day-to-day mood: whether you're stressed or blue or feeling emotionally sound; and then, there's the deeper satisfaction you feel about the way your life is going. While having an income above the magic $75,000 cutoff doesn't seem to have an impact on the former emotional well-being, it definitely improves people's life satisfaction. In other words, the more people make above $75,000, the more they feel their life is working out on the whole. But it doesn't make them any more jovial in the morning. (The federal poverty level for a family of four, by the way, is just $22,050.)

25. In the Princeton study, the $75,000 mark is -
(A) a target (B) a cut-off point (C) a standard
(D) a measure (E) a point of reference

26. In the second paragraph, why is the author asking the employers not to rush to raise salary of employees to $75,000? Because
(A) happiness does not necessarily lead to performance.
(B) $75,000 is still an arbitrary point.
(C) $75,000 is too high a salary compared to the poverty level income of $22,050.
(D) money cannot buy happiness, it helps ease difficulties of life.
(E) there are two emotions for employees to opt for.

27. Which of the following would make a suitable title for the given excerpt?
(A) Money can buy happiness
(B) Do We Need $75,000 a Year to Be Happy?
(C) Happiness - a matter of choice
(D) Happiness worth of $75,000
(E) Happiness

Questions 28 to 30

Instruction: Select the sentence(s), in each set, where the underlined word is being used correctly.

28. (i) The airborne seeds are one of the many ways of proliferation of plant life.
(ii) It was unfortunately the young men and women, who have borne the brunt of the loss of full-time jobs.
(iii) We are all concerned about her; although she has been bearing the loss of her mother pretty well so far.
(A) i and ii (B) ii and iii (C) i and iii (D) ii only (E) i, ii and iii

29. (i) With the growing popularity of the product, his business was burgeoning rapidly.
(ii) With travel and tourism industry on the burgeon, the economy is on its way to recovery.
(iii) From the last time I visited, the little town has burgeoned into a city now.
(A) i and ii (B) ii and iii (C) i and iii (D) ii only (E) i, ii and iii

30. (i) For an all-rounded grooming, it is important for business students to also read the writings of the great philosophers.
(ii) The research report was a piece well-write, now you've got to wait for the feedback.
(iii) You have not submitted the write-up on time.
(A) i and ii (B) ii and iii (C) i and iii (D) iii only (E) i, ii and iii

Section II: Mathematics **[30 Questions, 30 Marks]**

Instructions: DO NOT USE CALCULATOR. Figures are not drawn to scale.

31. A cough syrup contains 250 ml of syrup. A 5 year old child accidentally swallowed from the bottle until it holds 50 ml of syrup less than the quantity the child swallowed. How much did he swallow?
(A) 50 ml (B) 100 ml (C) 150 ml (D) 200 ml (E) none of these

32. In a class, 34% of the students are female. Given that there are 16 more male than female, how many female students are there in the class?
(A) 17 (B) 32 (C) 34 (D) 42 (E) none of these

33. A box contains some red, white and green marbles. The ratio of red marbles to white marbles is 3:4 and that of white marbles to green marbles is 5:6. What is the ratio of green to red marbles?
(A) 6:3 (B) 8:5 (C) 4:5 (D) 5:8 (E) none of these

34. The price of a stock increased by 10% in June. It declined by 20% in July. The price went up by 20% in August. What is the percentage change in stock price from the beginning of June to the end of August?
(A) 5.6 (B) 6.4 (C) 7.2 (D) 1 (E) none of these

35. Jar A has twice the capacity of Jar B. Jar A is 50% full of water and Jar B is 50% full of orange juice. If half the juice of Jar B is poured into Jar A, then Jar A will be filled to what fraction of its capacity?
(A) 1/2 (B) 5/8 (C) 3/4 (D) 7/8 (E) none of these

36. Ms. X bought some chocolates. She gave 1 more than half of them to her daughter. She then gave 1 more than half of the remainder to her son and had 1 remaining. How many chocolates did she buy?
(A) 10 (B) 12 (C) 15 (D) 18 (E) none of these

37. The original price of an item was an integer value. It was increased by 25% and then was reduced by 12% the next day. Which of these can't be the new price of the item in taka?
(A) 561 (B) 750 (C) 1100 (D) 1430 (E) none of these

38. If $(8^x)(9^{2y}) = 81(2^{12y})$, what is the value of x?
(A) 2 (B) 4 (C) 8 (D) 12 (E) 16

39. A seller bought some pens at a rate of 5 for Tk. 100. They were separated into two stacks, one of which was sold at a rate of 3 for Tk. 100 and the other at a rate of 6 for Tk. 100. What was the ratio of the number of pens in the two stacks if the seller made no overall profit or loss?
(A) 1:4 (B) 1:5 (C) 2:3 (D) 1:2 (E) 2:5

40. A cyclist raced from point A to B at an average speed of 20 miles per hour and returned from B to A following the same path at an average speed of 24 miles per hour. If the entire trip took exactly 11 hours to complete non-stop, how many miles is the distance from A to B?
(A) 88.88 (B) 120 (C) 166.33 (D) 176 (E) none of these

41. If $3+3/n = 2-2/n$, then $n = ?$
(A) -5 (B) $1/5$ (C) $-1/5$ (D) 5 (E) none of these

42. In a certain match, Tamim Iqbal scored a half century (50) only by hitting fours and sixes. If there are F fours and S sixes in his score, what is the least possible absolute difference between F and S?
(A) 0 (B) 2 (C) 5 (D) 10 (E) none of these

43. To make an instant coffee drink in a coffee machine, W liters of water is needed for every liter of concentrated liquid coffee mix. In a certain weekday in IBA canteen, C liters of concentrated coffee mix are required and coffee is sold for S taka per liter. If coffee mix is bought for B taka per liter and water is free, what will be the gross profit per day?
(A) C (S+W-B) (B) S (C+W-B) (C) S (OCW-B) (D) C(S+SW-B) (E) none of these

44. If $5n + 4$ is divisible by 3 and $6m + 2$ is divisible by 5 (m and n are non-negative integers), what is the lowest common value for m and n?
(A) 4 (B) 7 (C) 8 (D) 13 (E) none of these

45. In a local store, the average daily revenue was Tk. 6000 over a 30 day period. If the average daily revenue was Tk. 5000 for the first ten days, what was the average daily revenue (in taka) for the remainder of the period?
(A) 7000 (B) 6500 (C) 6000 (D) 5500 (E) none of these

46. Sohel will get 10 more pencils for Tk. 500 if its price is decreased by 20%. How many pencils will he get for Tk. 500 at the new price?
(A) 10 (B) 20 (C) 25 (D) 50 (E) none of these

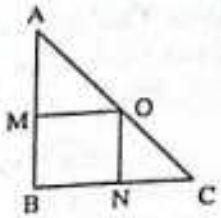
47. Three persons individually can perform a particular job in 5, 6 and 7 hours respectively. What is the longest part of the job that can be done in one hour by two persons working together?
(A) 11/30 (B) 11/42 (C) 12/35 (D) 11/35 (E) none of these

48. At the beginning of the year, the ratio of male to female students in a college was 3 to 4. During the year, 10 male and 20 female students left, while no new students joined the college. If, at the end of the year, the ratio of male to female students was 4 to 5, how many female students were there in the college at the beginning of the year?
(A) 80 (B) 90 (C) 100 (D) 120 (E) none of these

49. The amount of tax paid by an executive remains constant despite an increase of Tk. 2000 in his salary because the rate of the tax was reduced from 15% to 12%. If 30% of his income was exempted from tax in both the cases what was his salary (in taka) before rise?
(A) 8000 (B)10000 (C)12000 (D)13500 (E)none of these

50. Given that $0 < x < 1$, which of the following inequalities must be valid?
I $x^3 > x^5$
II $x^4 + x^5 < x^3 + x^2$
III $x^2 - x^3 > x^4 - x^5$
(A) I only (B) II only (C) I & II only (D) I,II & III (E) none of these

51. In the right angled triangle ABC, O is point on hypotenuse AC, where OM = ON; ON is perpendicular to BC and OM is perpendicular to AB, AB=10 cm and BC=8 cm. Find the length of OM in cm.

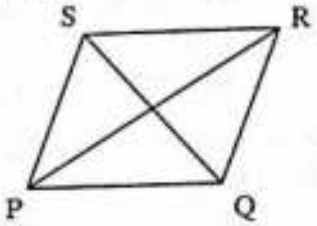


(A) 24/7 (B) 5477
(C) 40/9 (D) 32/9
(E) none of these

52. The numerator of a fraction is decreased by 20% and the denominator of the fraction is increased by 180%. The resultant fraction is 10/27. What was the original fraction?
(A) 2/5 (B) 7/9 (C) 3/5 (D) 5/6 (E) none of these

53. The average (arithmetic mean) of 8 consecutive odd integers is 400. Which is the least of these integers?
(A) 389 (B) 391 (C) 393 (D)395 (E) none of these

54. In the figure below PQRS is a rhombus with each side 5 cm. What is the length (in cm) of diagonal PR, if SQ = 8 cm?



(A) 6 (B) 5 (C) 4
(D) 2 (E) none of these

55. X is greater than Y by 13 and Z is less than Y by 7. If the ratio of X: Z is 9:5, what is the value of Z?
(A) 12 (B) 17 (C) 25 (D) 32 (E) none of these

56. The number of pens possessed by X, Y and Z is in the ratio 2:4:7. If the total cost of the pens is Tk. 1170 and the average cost of one pen was Tk. 30, how many pens does Y have?
(A) 8 (B) 12 (C) 15 (D) 16 (E) none of these

57. If x, y and z are integers and $x = 2y - 7 + 3z$, which of the following must be odd?
(A) y (B) z (C) xy−1 (D) xz − 1 (E) none of these

58. A total of 200 players from different countries were auctioned for the second edition of the BPL in a ceremony held at the Radisson Blu Water Garden Hotel, Dhaka. The players play either for their respective national teams or national league of their home countries or both. If 50 of them do not play for their national teams and 120 do not play in the league, how many of the players play for both?
(A) 30 (B) 50 (C) 70 (D) 120 (E) 170

59. If $x^2 > x^3 > x$, which of the following is NOT a possible value of x?
(A) −1/8 (B) −1/3 (C) −2/7 (D) −7/6 (E) none of these

60. During 2012-13 season of La Liga, Real Madrid won 80% of the home matches and 40% of the 15 away matches. If Madrid won a total of 60% matches in the entire season, what is the total number of matches Madrid played?
(A) 20 (B) 30 (C) 40 (D) 60 (E) none of these

Section III: Analytical Ability

15 Questions, 15 Marks

61. Pandas are rapidly disappearing from the wild. Therefore, in order to preserve the species, existing pandas should be captured and placed in zoos around the world.

Which of the following statements, if true, casts most doubt on the conclusion drawn above?

(A) When in captivity, pandas typically produce more young than they do in their native habitat.
(B) Newborn pandas in zoos are not likely to die from infectious diseases, whereas newborn pandas in the wild are likely to die from these diseases.
(C) Many zoos are eager to increase their stock of rare and exotic animals, but there are not enough pandas for all the zoos that want one.
(D) Sufficient quantities of bamboo, the panda's only food, cannot be made available outside the panda's native habitat.
(E) Pandas in zoos have as many offspring that survive to adulthood as do pandas in the wild.

62. I. Neither Asad nor Rana will travel by air.
II. Neither Asad nor Rana will travel to Andaman.

Statement II must be true if both statement I and which of the following statement are true?

(A) Immigration officials do not allow travelers without valid visas to enter Andaman.
(B) The cost of travel to Andaman other than by air is too high.
(C) Until recently, Andaman was closed to foreign visitors.
(D) It is equally possible to reach Andaman by commercial as by private airplane.
(E) It is impossible to reach Andaman except by air.

Questions 63 to 66

The director of IBA is planning to appoint research committees, each consisting of exactly three members. Eligible for appointment are three teachers from Finance - F, G, and H, and three teachers from Operations - K, L, and M. Any given committee is subject to the following restrictions on appointments:

- At least one member must be from Finance, and at least one member must be from Operations.
- If F is appointed, G cannot be appointed.
- Neither H nor L can be appointed unless the other is appointed also.
- If K is appointed, M must also be appointed,

63. If appointees from Operations are in the majority on a committee, that committee must include?
(A)F (B)G (C)K , (D) L (E) M

64. Which of the following is an acceptable committee?
(A) F, H, and M (B) G, L, and M (C) H, K, and L (D) H, L, and M (E) K, L, and M

65. If the restrictions on appointments apply also to four-member committee appointed from the same group of executives, which of the following will be true?

(A) If F is appointed, M must also be appointed.
(B) If G is appointed, K must also be appointed.
(C) If H is appointed, F must also be appointed.
(D) If L is appointed, G must also be appointed.
(E) If M is appointed, K must also be appointed.

66. If F is appointed to the same committee as M, which of the following will be true of that committee?
    (A) Appointees from Finance are in the majority.
    (B) Appointees from Operations are in the majority.
    (C) G is a committee member.
    (D) L is a committee member
    (E) K is not a committee member.

Questions 67 to 71.

Six business negotiators - M, O, P, R, S, and T are to be seated at a round table to discuss a business deal. There are exactly six chairs around the table. Each negotiator sits facing the center of the table and is directly opposite to a negotiator across the table. The seating arrangement is subject to the following restrictions:

- T cannot sit next to P.
- S cannot sit next to M.
- R must sit next to M.

67. If R sits next to S on S's right side, who must sit next to R on R's right side?
    (A) M (B) O (C) P (D) S (E) T

68. If T sits next to M and S sits next to R, which of the other negotiators must sit next to S?
    (A)M (B) O (C) P (D) R (E)T

69. If T sits directly across the table from O, who must sit on either side of P?
    (A) M and O (B) M and S (C) O and R (D) O and S (E) R and T

70. Which of the following is an acceptable sequence of negotiators around the table?
    (A) M, S, R, T, P, O (B) M, S, T, P, R, O
    (C) T, O, P, S, M, R (D) T, R, M, P, S, O
    (E)T, S, R, M, O, P

71. If M sits next to P, which of the following is a complete and accurate list of those who can sit next to P on P's other side?
    (A) O (B) O, S (C) O, S, R (D)R, S, T (E) O, R, S, T

Questions 72 to 75

Exactly four young wood-carvers are to attend a wood-carving workshop. The four are to be chosen from a group of seven eligible wood-carvers: three boys - Farid, Golam, and Hossain, and four girls - Jui, Koli, Mona, and Nishi. The four are to be chosen according to the following conditions:

- If either Golam or Hossain attends the workshop, the other must also attend.
- Jui and Koli cannot both attend the workshop.
- Goalm and Mona cannot both attend the workshop.

72. If Hossain attends the workshop, which of the following CANNOT attend?
    (A) Farid (B) Golam (C) Jui (D) Mona (E) Nishi

73. If two boys and two girls attend the workshop, which of the following is one of the wood-carvers who must attend?
    (A) Farid (B) Golam (C) Jui (D) Koli (E) Mona

74. Which of the following could be the group attending the workshop?
(A) Farid, Golam, Hossain, Mona
(B) Farid, Golam, Koli, Nishi
(C) Farid, Koli, Mona, Nishi
(D) Golam, Jui, Mona, Nishi
(E) Jui, Koli, Mona, Nishi

75. If Farid and Jui attend the workshop, which of the following pairs of wood-carvers could be the others attending?
(A)Golam and Koli
(B) Golam and Nishi
(C) Hossain and Mona
(D) Koli and, Mona
(E) Mona and Nishi

PART II: Writing Ability

25 Marks

A. **"Introduction of more rickshaws on the streets of Dhaka"**- write your arguments either for or against the statement. [15]

B. Describe **the campus life** you had in the past. [10]

ANSWER KEY

Section I: Language and Communication

1.E	2.C	3.B	4.D	5.E	6.B	7.E	8.B	9.A	10.C
11.E	12.A	13.D	14.E	15.A	16.B	17.D	18.E	19.B	20.D
21.D	22.E	23.B	24.A	25.B	26.D	27.C	28.C	29.C	30.C

Section II: Mathematics

31. C	32. A	33. B	34. A	35. B	36. A	37. B	38. B	39. A	40. B
41. A	42. A	43. D	44. D	45. B	46. D'	47. A	48. D	49. A	50. C
51. C	52. E	53. C	54. A	55. C	56. B	57. E	58. A	59. D	60. B

Section III: Analytical

61. D	62. E	63. E	64. D	65. A	66. B	67. A	68. C	69. D	70. D
71. B	72. D	73. B	74. C	75. E	-	-	-	-	-

Solution of MBA Admission Test 2012 (December)

Section I: Language and Communication

1. (E) এখানে E option টি perfect কারণ বলা হচ্ছে যে 'সহকর্মীদের থেকে প্রাপ্ত বিরোধিতা এবং শত্রুতার বিপরীতে তার অবেগ নিয়ন্ত্রণ (maintenance of composure) দেখে আমি অভিভূত'।
2. (C)এখানে as there are এর সাথে so there are সামঞ্জস্যপূর্ণ এবং grammatically correct.
3. (B) যখনই (as soon as) plane land করল, তার ভক্তরা, উত্তেজিত হয়ে উঠল। past tense হওয়ায় option B টি সঠিক। অন্যগুলো সঠিক নয়।
4. (D) D একমাত্র grammatically correct.
5. (E) predicament অর্থ হচ্ছে কঠিন সমস্যা।
6. (B) 'do away with' অর্থ হচ্ছে কোনো কিছু বিলুপ্ত করা (to abolish).
7. (E) 'look out for' অর্থ হচ্ছে কোন কিছুর যত্ন নেয়া (properly take care করা)।
8. (B) এটি double comparative related problem. Option B তে double comparative এবং tense এর parallelism accurately maintain করা হয়েছে।
9. (A) এখানে একমাত্র A option এই clause marker হিসেবে during কে perfectly use করা হয়েছে।
10. (C) Principal সহকর্মীদের আড়ালে secretly কিছু plan (connive) করেছেন।
11. (E)
12. (A)
13. (D)
14. (E)
15. (A)
16. (B) Those kinds হবে।
17. (D) Their এর স্থলে the হবে।

18. (E) কোনো ভুল নেই।

19. (B) besides এর স্থলে beside হবে।

20. (D) commotion = গোলযোগ= turmoil.

21. (D) delinquent = অপমানজনক= offending.

22. (E) rife =বহুল প্রচলিত = extensive.

23. (B) staunch = দৃঢ় = steadfast.

24. (A) capitulate = সমর্পণ করা= submit.

25. (B) Line 10এ বলা আছে।

26. (D) Line 11, 12 and 13এ hints আছে।

27. (C)পুরো passage টি ভালো করে পড়লে বোঝা যায় যে answer is C.

28. (C) Sentence (ii)তে wrong use করা হয়েছে। Sentence (i) and (iii)সম্পূর্ণ সঠিক।

29. (C) Sentence (ii) তে wrong use করা হয়েছে। 'burgeon' is a verb, noun নয়। Sentence (i) and (iii) সম্পূর্ণ সঠিক।

30. (C) Sentence (ii) তে wrong use করা হয়েছে। 'well-write' হয়না, well-written হতে পারে। Sentence (i) and (iii) সম্পূর্ণ সঠিক।

Section II: Mathematics

31. (C) Let, the child swallow = x ml
So x + (x – 50) = 250; or, x = 150 ml

32. (A) 34% হলো female. অর্থাৎ 66% হচ্ছে males
Difference = 66% – 34% = 32%; or, বলা যায় 32% বেশি male আছে।
So 32% equivalent to 16 students
Thus 1% equivalent to 1/2 student
And 34% equivalent to 17 students

33. (B) Red: White = 3:4 = 15: 20
White: Green = 5: 6 = 20: 24
So the ratio of green to red marbles = 24: 15 = 8: 5

34. (A) Applying the formula of successive change, a + b + ab/100,
Change occurred in June & July = +10 – 20 – (10 × 20) /100 = –12%
Now combined change in June, July and August = –12 + 20 – (12 × 20) /100 = 5.6%

35. (B) ধরি, Jar B এর capacity হচ্ছে 100 ltr.
তাহলে Jar A এর capacity 200 ltr
Again, Jar A is 50% full means there is 100 ltr of water in it.
And jar B is 50% full means there is 50 ltr of juice in it.
এখন jar B থেকে jar A তে অর্ধেক juice ঢালা হলে jar A এর পরিমান হবে 100 + 25 = 125 ltr। তাই capacity হবে $\frac{125}{200} = 5/8$

36. (A)এই ধরনের questions সমাধান করার সহজ উপায় হচ্ছে answers option থেকে try করা।

Let, she had 10 chocolates.
She gave to her daughter = (10/2) + 1 = 6 chocolates & left with 4.
Then she gave to her son (4/2) + 1 = 3 chocolates & left with 1.

37. (B) The successive changes were equivalent to 25–12 – (25 × 12) /100 = 25 – 12 – 3 = 10% increase.

If previous price was Tk. 1, then new price would be 1 + 10% of 1 = 1.10 taka.
সুতরাং বলা যায় যে নতুনমূল্যটিকে1.10 দ্বারা divide করলে integer value হবে।
750 is not evenly divisible by 1.10

38. (B)$8^x \times 9^{2y} = 81 \times 2^{12y}$

Or, $2^{3x} \times 3^{4y} = 3^4 \times 2^{12y}$
Now, evaluating the co- efficients, we get-
$3^{4y} = 3^4$ or, 4y = 4 or, y = 1
$2^{3x} = 2^{12y}$ or, 3x = 12y or, 3x = 12 × 1 = 12, or, x = 4

39. (A) Let, he sells x pens for Tk. 100/3 = 33.33 each and sells y pens for Tk. 100/6 = 16.66 each.

He bought all the pens for Tk. 100/5 = 20 and there was no overall profit or loss.
So, 100/3 x + 100/6 y = 100/5 (x + y)
Or, 1/3 x – 1/5 x = 1/5 y – 1/6 y
Or, x/y = 1/4

40. (B) Average speed for the entire trip $= \frac{2 \times 20 \times 24}{20+24} = 21.81$ mph

So total distance traveled = 21.81 x 11 = 240 miles
Distance from A to B = 240/2 =120 miles.

41. (A) $3+\frac{3}{n} = 2-\frac{2}{n}$

Or, $\frac{3}{n} + \frac{2}{n} = 2 - 3$ or, $\frac{5}{n} = -1$ or, n = – 5

42. (A) 50 runs = 5 fours + 5 sixes

So F = 5 and S = 5
Least possible absolute difference = 5 – 5 = 0

43. (D) 1 liter coffee mix এর জন্য প্রয়োজন W liter water

C liter coffee mix এর জন্য প্রয়োজন CW liter water
মোট কফির পরিমান= C + CW liter
Profit = S (C + CW) – BC = SC + SCW – BC = C (S + SW –B)

44. (D) 13হচ্ছে এই condition মেনে m ও n এর জন্য সর্বনিম্ন common value.

5 x 13 + 4 = 69, this is divisible by 3.
6 x 13 + 2 = 80, this is divisible by 5.

45. (B) Total revenue = 6000 x 30 = 180000 taka

প্রথম ১০ দিনের revenue = 5000 x 10 = 50000 taka
বাকী ২০ দিনের avg. revenue = (180000 - 50000) / 20 = 6500 taka

46. (D) ধরি, পূর্বে প্রতিটি কলমের মূল্য ছিল x

তাহলে এখন প্রতিটি কলমের মূল্য হবে 0.8 x

So $\frac{500}{0.8x} - \frac{500}{x} = 10$

Or, $\frac{625}{x} - \frac{500}{x} = 10$ or, x = 12.5

Number of pencils at new price = 500 / (0.8 x 12.5) = 50

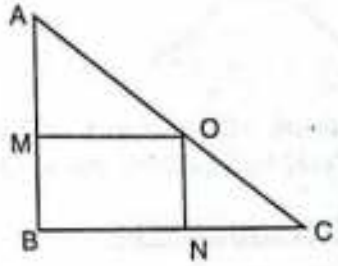
47. (A) কাজটির Longest part করতে পারবে যে দুজন সবচেয়ে efficient অর্থাৎ যাদের 5 ও 6 ঘন্টা লাগে।
So longest part of the work done in 1 hour = 1/5 + 1/6'= 11/30

48. (D) ধরতে, male: female = 3: 4
Let, number of male = 3x and female = 4x
At the end, males became 3x – 10 and females became 4x – 20
(3x – 10) / (4x – 20) = 4/5
Or, 15x – 50 = 16x – 80
Or, x = 30
At the beginning female students were 4 x 30 = 120

49. (A) ধরি, rise হওয়ার পূর্বে তার Salary ছিল x
His salary increased by Tk. 2000 and 30% of his income was exempted from tax in both = cases.
So, $0.7x \times \frac{15}{100} = 0.7(x + 2000) \times \frac{12}{100}$
Or, x = 8000

50. (C) Given that, 0 < x < 1
Let, x = ½
i. $(1/2)^3 > (1/2)^5$ or, 1/8 > 1/32, true
ii. $(1/2)^4 + (1/2)^5 < (1/2)^3 + (1/2)^2$ or, 3/32 < 3/8, true
iii. $(1/2)^2 - (1/2)^3 > (1/2)^4 - (1/2)^5$ or, 1/8 > 1/32, not true

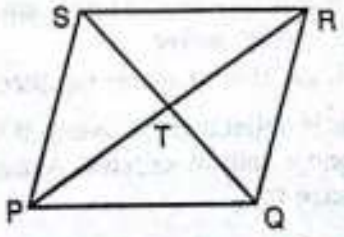
51. (C) OM = ON, AB = 10 cm, BC = 8 cm
Thus OMNB is a square.
Again, triangle AMO & triangle ABC are similar.
AM/OM = AB/BC
(AB – MB) / OM = 10/8
Or, (AB - OM) / OM = 10/8
Or, (10 – OM) / OM = 10/8
Or, OM = 40/9



52. (E) Let, the original fraction $= \frac{x}{y}$
The new fraction would be = 0.8x / 2.8y
Again, 0.8x / 2.8y = 10/27
Or, x/y = (10 x 2.8) / (27 x 0.8) $= \frac{280}{216} = \frac{35}{27}$, which is not given.

53. (C)৮টি consecutive odd integer এর Average হচ্ছে= 400
That means the average of 4th and 5th number = 400
Or, 4th integer = 399 and 5th is 401
The least or the 1st integer is 393(as 4thone is 399)

54. (A) PQ = 5 cm
Diagonal SQ = 8 cm; so TQ = 4 cm
Δ PTQ is a right triangle where <PTQ = 90°
Therefore, $5^2 = 4^2 + PT^2$
So PT = 3 cm and hence PR = 6 cm.



55. (C) Given, X = Y + 13 and Z = Y – 7
X/Z = 9/5
Or, (Y + 13) / (Y – 7) = 9/5
Or, 5Y + 65 = 9Y – 63
Or, Y = 32
Z = 32 – 7 =25

56. (B) Total number of pens = 1170/30 = 39
The ratio of pens = X: Y: Z = 2: 4: 7
So Y has $\frac{4}{13} \times 39 = 12$ pens

57. (E) Given that, x = 2y – 7 + 3z
উপরের information থেকে কোনটি must be odd এটা বলা যায় না।

58. (A) n (A U B) = n (A) + n (B) – n (A ∩ B)
Or, 200 = 150 + 80 – n(A ∩ B)
Or, n (A ∩ B) = 30

59. (D) Given that, $x^2 > x^3 > x$
From the answers, – 7/6 cannot be a value of x; $(-7/6)^3$ is not greater than (– 7/6)
So in this case x^3 is not greater than x.

60. (B) 80% 40%

60%

20 : 20

Home match এবং away match এর ratio হবে20:20 অর্থাৎ1:1
সুতরাং Real Madrid মোট ম্যাচ খেলেছে (15 + 15) = 30 match.

Section III: Analytical Ability

61. (D) conclusion বলা হচ্ছে যে Panda দ্রুত বিলুপ্ত হচ্ছে। তাই এদেরকে সংরক্ষন করার জন্য zoo তে রাখতে হবে। কিন্তু Panda দের একমাত্র খাবার bamboo ওদের native habitat ছাড়া পাওয়া যায় না। So it casts most doubt.

62. (E) যদি Asad এবং Rana কেউই air এ travel না করে এবং air travel ছাড়া যদি Andaman এ পৌছানো না যায়, তাহলে statement II must be true. It says neither Asad nor Rana will travel to Andaman.

63. (E) Majority from Operations means there are 2 members from Operations. Now if K is selected from there, M must also be selected with him. Even if K is not selected, then L & M will come from Operations. তাই যেকোন ভাবেই M selected হবে।

64. (D) (A) – L and H must appear together.
(B) – L and H must appear together.
(C) – If K is appointed, M must also be appointed.
(D) – Correct answer.
(E) – L and H must appear together.

65. (A) If there is a four member group, there must be at least two from operations; because F & G from Finance cannot both be selected. Again, M is always selected when there are two from Operations. তাই M selected হবে।

66. (B) F and M already appointed and only 1 member is required. As F is appointed, so G cannot be appointed from Finance. Again, if H is appointed from Finance, L must also be appointed. But it is not possible as they have to make a 3 member group. So appointees from Operations are in the majority.

67. (A) S sits next to R in one side. And according to the condition, M must sit on the other side of R.

68. (C) --- T M R S ---
So P must sit next to S; because T and P cannot sit next to each other.

69. (D) T sits directly across to O. তাই এদের দুইপাশে দুটি করে Seat খালি থাকবে। যেকোন একপাশের দুটিতে R ও M বসবে। On the other side, P cannot sit next to T. So S or O must sit on either side of P.

70. (D) (A) – S cannot sit next to M
(B) – S cannot sit next to M
(C) –S cannot sit next to M
(D) – Correct answer.
(E) – T cannot sit next to P

71. (B) M sits next to P. Again, M এর অন্য পাশে R বসবে, তাই P এর পাশে R বসতে পারবে না। T cannot sit next to P.So only O and S are eligible to sit next to P on P's other side.

72. (D) If Hossain attends, Golam must also attend. Again, if Golam attends, Mona cannot attened the workshop.

73. (B) তিন জনের মধ্যে দুই জন Boys নিতে হলে Golam ও Hossain থাকবেই। কারন এরা একা থাকতে পারবে না। So Golam and Hossain must attend.

74. (C) (A) – Golam and Mona cannot both attend.
(B) – If Golam attends, Hossain must also attend.
(C) – Correct answer.
(D) –If Golam attends, Hossain must also attend.
(E) – Jui and Koli cannot both attend.

75. (E) (A) – If Golam attends, Hossain must also attend.
(B) – If Golam attends, Hossain must also attend.
(C) – If Hossain attends, Golam must also attend.
(D) –Jui and Koli cannot both attend.
(E) – Correct answer.

MBA (IBA)

Admission Test Question 2013 (June) with Solution

PART I: Multiple Choice Questions (MCQ)

Section I: Language

75 x 1 = 75 Marks

Questions 1 to 5

30 x 1 = 30 Marks

Instruction: *Select the choice that best replaces the underlined part of the given sentence conveying the meaning. If you think that the original sentence is the best choice, select the first choice.*

1. During all these forty one years' life of Bangladesh, no one expected the public media was fair.
   (A) was (B) to be (C) of being (D) should be (E) had to be

2. Do you know that these books have lay on the reading room table all week?
   (A) have lay (B) have laid (C) would lie (D) had laid (E) have lain

3. After comparing my software with the branded one available in the market, I decided that mine was the most efficient.
   (A) was the most efficient. (B) should be the most efficient.
   (C) was the more efficient. (D) was by far the most efficient
   (E) should be considered the most efficient.

4. Arguments against using elderly senile people as courtroom Witnesses are often predicated on the unproved assumption that their memories are less trustworthy than sound adults.
   (A) sound adults (B) that of a sound adult
   (C)a sound adult is (D) those of sound adults (E) sound adults are

5. If the reports have been examined last week, why haven't they been returned to the students?
   (A) have been examined (B) would have been examined
   (C) was examined (D) were examined (E) had been examined

Questions 6 to 13

Instruction: *Choose the most appropriate word(s)/phrase to fill in the blank in the given sentence.*

6. I want to meet Afia at the station. What time _____?
   (A) does her train arrive (B) is her train going to arrive
   (C) is her train arriving (D) will her train be arrived
   (E) her train will arrive

7. By this time next year, Arif _____ at the University of Manchester.
   (A) will begin classes (B) has began classes
   (C) should begin classes (D) will have begun classes
   (E) should have begun classes

8. Friendship and respect are emotions that need _____.
   (A) repetition (B) acknowledgement
   (C) assuaging (D) return (E) reciprocation

9. It is very annoying when the word you are looking for is right at the tip of your tongue, but is still_____ you.
   (A) abandoning (B) eluding (C) dodging (D) avoiding (E) shunning

10. In a road trip, it is a part of the beautiful scenery to see squirrels _____ along the road.
(A) scuttling (B) running (C) darting (D) moving (E) rushing

11. I let my child assist me when I cook, just to encourage the _____ chef in him.
(A) novice (B) thriving (C) intuitive (D) budding (E) insightful

12. One of my subordinate quit his job yesterday without giving anyone the slightest _____ that he was planning to quit!
(A) suggestion (B) feeling (C) inkling (D) impression (E) implication

13. I do not _____ your ideas; I have totally different views on the matter.
(A) validate (B) subscribe to (C) oblige to (D) contradict (E) confess to

Questions 14 to 18
Instruction: *Select the choice that best expresses the underlined word in each sentence.*

14. His mother was much relieved to see a return of her son's former enthusiasm in schoolwork after getting all A's in his latest works.
(A) zeal (B) interest (C) apathy (D) unconcern (E) keen

15. Our success in the recent case competitions can only be attributed to the persistent hard work of the students and the unconditional support of the faculties of the Institute.
(A) ascribed to (B) related to (C) causal to (D) induced by (E) inducted by

16. Official code of ethics always encourages employees to abstain from accepting pecuniary benefits from external parties.
(A) significant (B) considerable (C) subtle (D) illegal (E) financial

17. I felt honored to be invited to the academic conference, where the most erudite people in the field of business research were expected to be present.
(A) exposed (B) experienced (C) learned (D) intelligent (E) advanced

18. I was quite surprised to see the level of familiarity allowed by the faculty to his student that was inappropriate, for a person of his situation!
(A) inconsistent (B) unbecoming (C) undue (D) uncalled (E) unnecessary

Questions 19 to 23

Instruction: *Underlined parts of the following sentences may contain error(s) in grammar, diction, usage or idiom. Choose the underlined portion that is incorrect. If there is no error then select (E).*

19. Everyone (A) expected to do well in the exam because all (B) had worked (C) so hard for it (D) No error. (E)

20. I was not surprised by you (A B) coming home after such a long time as (C D) it was expected, No error. (E)

21. Whom (A) did you talk to (B) at (C) the help desk at the MBA office? (D) No error. (E)

22. I found (A) him sleeping (B) when I first came in (C D) the room. No error. (E)

23. Mr. Tafsir Uddin, my favorite teacher, said that I could improve my reading comprehension score if I had spent more time reading English Newspapers. No error.
A B C D E

Questions 24 to 25

Instruction: *Identify the sentences in each set where the underlined word is being used correctly.*

24. (i) With your heart condition, I would recommend a brisk walk in the park every morning.
(ii) After a number of days of strike and inactivity, business was pretty brisk today.
(iii) After a long day of work and on this hot summer day, the students were feeling pretty brisk.
(A) i and ii (B) ii and iii (C) i and iii (D) ii only (E) all three

25. (i) He is a growing boy; only a hearty meal will assuage his hunger!
(ii) Even though we are in a team, you cannot really expect us to assuage your scheme to win this project.
(iii) In the dead of the night, when a baby wakes up and cries, only a mother's touch can assuage her.
(A) i and ii (B) ii and iii (C) i and iii (D) ii only (E) all three

Questions 26 to 30

Instructions: *Answer the Questions based on the following article*

It is often said that the difference between an optimist and a pessimist is that the former sees the glass half full and the latter sees the glass half empty. In other words, it is said to be a matter of perception.
One group of researchers contend that one's psychological makeup creates that perception irrespective of context. They collected data and conducted numerous experiments on two groups of people and subjected them to the same circumstances. The pessimism-inclined showed responses typical of someone who expects the worst outcome, while those who are optimistic tended to expect things to turn out for the better - even for the same circumstance and even for the same eventual outcome! This has led the researchers to conclude that it is not the circumstances that shape or guide optimistic/ pessimistic outlook, rather an innate judgment of how things will turn out.

Another group of researchers, on the bases of years of background data, have concluded that people's experiences and social context over the years shape their outlook on life. People who have had bad things happen to them, more commonly become pessimistic, while people who have lived sheltered or 'safe' lives tend to become optimistic.

These debates have stemmed from the classical 'nature' versus 'nurture' debate. One group contends that our behaviors are the result of our innate, genetic makeup, while the other group holds that it is our experiences and environ that dictate our behaviors.

26. Which of the following is NOT concluded by any of the groups in the article?
(A) Individuals perceive situations based on how circumstances have acted upon them in the past.
(B) Individuals' surroundings, over time, impact their perception.
(C) Individuals' attitude towards circumstances is often brought about factors other than perception.
(D) Individuals perceive outcome based on their own general outlook on life, a result of their psychological makeup.
(E) Each of these is concluded in the article.

27. Which of the following, if true, would bring to doubt the interpretation of one of the groups?
(A) Individuals who are genetically predisposed to pessimism react inappropriately in situations that result in unfavorable outcomes over time.
(B) Individuals who have had bad things happen to them, perceive circumstances as unfavorable.
(C) Individuals who are inherently predisposed to negativity tend to be more pessimistic.
(D) Individuals who are generally optimistic, sometimes have negative outlook on life.
(E) Individuals are identified as either optimistic or pessimistic, often ignoring the middle ground - neither optimistic nor pessimistic.

28. Which of the following is an argument for those who uphold the 'nature' view?
(A) Regardless of how eventually outcomes turn out to be, an adult optimist readily accept challenging situation.
(B) Regardless of how eventually outcomes turn out to be, an adult pessimist is skeptical about challenging situations.
(C) A child, when presented with a challenge, will deal with it based on similar experiences before.
(D) A challenging situation is deemed such, based on an individual's perception of it.
(E) Young children's responses to challenging situations vary, with some being eager to take it on, while others shy away from it.

29. How can the article be best described?
(A) A conclusive discussion on the bases of individual's positive or negative perception of circumstances.
(B) A denunciation of the position that perception of circumstances is driven by one's predisposition toward positive or negative outlook.
(C) A discourse on different points of view on the foundations of an individual's positive or negative perception of circumstances.
(D) A thorough analysis of the 'nature' versus 'nurture' debate.
(E) An introduction to the bases of attitudes of individuals, either perception or instinct.

30. Which of the following, if true, would provide greater support to one of the viewpoints?
(A) Perception is <u>not</u> the only factor contributing to one's responses to various circumstances.
(B) Perception is removed from reality, except for those who perceive the right outcome beforehand.
(C) One responds to various circumstances based only on one's perception of the situation.
(D) Good things happen to bad people too and vice versa.
(E) Some individuals have, over time, become optimistic although they were pessimists to begin with and vice versa.

Section II: Mathematics **30 x 1 = 30 Marks**

Instructions: DO NOT USE CALCULATOR. Figures are not drawn to scale.

31. One of the sides of a square measures 20 cm in length. If we increase the length of two opposite sides by 4 centimeters and decrease the length of the remaining two opposite sides by the same measure, then what will be the area of the resulting figure in sq.cm?
(A) 324 (B) 360 (C) 384 (D) 400 (E) none of these

32. If $(2x + 4y + 6z)/6 = (x + 2y)/2$, then $z = ?$
(A) $(x + 2y)/6$ (B) $(x + 2y)/3$ (C) $(2x + y)/6$
(D) $(2x + y)/3$ (E) none of these

33. On a certain day X drives his car from his home at the rate of 20 Km/hr and reaches his office 10 minutes late. The next day he drives at 30 Km/hr and reaches his office 5 minutes early. Calculate the distance between X's home and office in Km.
(A) 10 (B)12 (C)15 (D) 17.5 (E) none of these

34. If a, b and c are odd integers, which of the following expressions must be an even integer?
(A) ab + bc + ca (B) a(b + c − 1) (C) $a^2 - b^2 + c^2$ (D) 3(ac−bc) (E) none of these

35. What is the largest integer, n, that satisfies the inequality $(n^2 + 7n - 3) < (n^2 + 5n + 9)$?
(A) 4 (B) 5 (C) 6 (D)7 (E) none of these

36. The average daily wages of 10 employees is Tk. 400. If the lowest wage is Tk. 300, what is the possible maximum wage in Tk.?
(A) 800 (B) 900 (C) 1000 (D) 1300 (E) none of these

37. If A = 7C/(B+0.5C), then C =
(A) 2AB/(7 − 0.5A) (B) AB+ 2A/7 (C) A(B+0.5)/7
(D) 2AB/(14 −A) (E) none of these

38. If z is the sum of x and y, and x < y, which of the following is equal to (z − 2x)?
(A) z−x−y (B) z + x − y (C) 2y − z (D) 2z −x + y (E) none of these

39. You can buy 16 pens for y Taka. How many pens can you buy for z Taka if the price of the pen is reduced by 20%?
(A) 20z/y (B) 80y/2 (C) 20y/z (D) (20yz)/16 (E) none of these

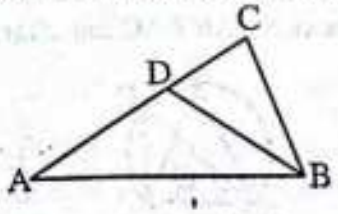
40. Last year, the ratio of salary of X and Y was 1:2 and that of X and Z was 1:3. This year everyone got an increment of Tk. 1000. If Z is now drawing Tk. 25,000, what is the salary in Tk. of Y this year?
(A) 15000 B) 17000 (C) 17500 (D) 18000 (E) none of these

41. If 5/8 of a number is 11 more than 1/6 of the number, what is 3/4 of that number?
(A) 18 (B) 20 (C) 2 (D) 32 (E) none of these

42. If x and y are integers and −9 < x < 9 and 0< y < 14, what is the greatest possible value of (y − x)?
(A) 23 (B) 21 (C) 19 (D) 17 (E) none of these

43. The price of 1 kg. of sugar was Tk. 60 in April. The price of sugar was increased by 12% in May. The price was again increased by Tk. 3 in July. Calculate the percentage of total increase in the price compared to the price of April.
(A) 17% (B) 21% (C) 22% (D) 22.5% (E) none of these

44. In the triangle, AC = AB, BC = BD =AD. Find the value of ZDBA.
(A) 32°
(B) 36°
(C) 37.5°
(D) 39°
(E) none of these



45. The cost of 1 kg. of cashew nut is Tk. 500 and the cost of 1 kg. of pistachio nut is Tk. 580. At what proportion should they be mixed so that the resultant mixture costs Tk. 550 per kg.?
(A) 2:3 (B) 3:4 (C) 3:5 (D) 4:5 (E) none of these

46. If x and y are negative and z is positive, which of the following must be true?
(I)$(x-y)<(x-z)$ (II)$x/z<y/z$ (III)$1/y<1/z$
(A) only I (B) only II (C) only III (D) both II and III (E) none of these

47. Taka 3660 is divided among X, Y and Z in such a way that if Tk. 10, Tk. 20 and Tk. 30 are removed from the sums that X, Y and Z received respectively, then the share of the sums that they will get will be in the ratio of 3: 4: 5. How much did X receive?
(A) 890 (B) 905 (C) 910 (D) 915 (E) none of these

48. In a club the ratio of men and women is 16:7. The ratio of married men and married women is 4:3. Find the percentage of married men if 60% of the women are married.
(A) 35% (B) 42% (C) 45% (D) 52.5% (E) none of these

49. If $x/y<(x+1)/(y+1)$, which of the following must be true?
(A) $x<1$ (B) $x<y$ (C)$y<1$ (D)$y<x$ (E) none of these

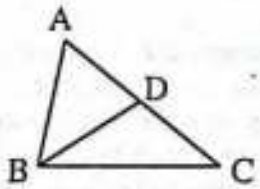
50. When the positive integer x is divided by 9, the remainder is 5. Which of the following must be true?
(A) x is odd (B) x is even (C)x−1 is divisible by 2
(D)x+1 is divisible by 3 (E) none of these

51. The total weight of 2 dozen gold bars and 3 dozen silver bars is 960 gms. If the weight of a silver bar is 10 gms, what is the weight of a gold bar?
(A) 20 (B) 22 (C) 24 (D) 25 (E) none of these

52. If $x > 0$ and $y < 0$, which of the following must be true?
(A) $x + y > 0$ (B) $x^2-y^2>0$ (C) $y^2-x>0$ (D) $y + x^2>0$ (E) none of these

53. The product of three positive integers is 600. If one of the integers is 5, what is the least possible value of the sum of the other two?
(A) 18 (B) 20 (C) 22 (D) 24 (E) none of these

54. In the triangle ABC, $\angle BAC = 60°$ and $\angle DCB = 50°$. Which of the following is true for the triangle?
I. $\angle ADB-\angle DBC = 50°$
II. $\angle BDC = \angle BDA-60°$
III. $\angle ADB + \angle DBC = 100°$
(A) Only I (B) only II (C) only III
(D) both I and II (E) none of these



55. If x and y are two distinct positive integers divisible by 4, then which of the following is necessarily divisible by 8?
(A) $x + y$ (B) $x - y$ (C) $x^2 + y^2$ (D) $2x + y$ (E) none of these

56. In the figure, O is the center of the circle, AB = AC and $\angle ACB = 62°$.
Find $\angle ABD$.
(A) 28° (B) 30°
(C) 32° (D) 35°
(E) none of these

57. X and Y together can do a piece of work in 18 days. When Y and Z work together, they can do the work in 12 days. But when X and Z work together, they can do the same piece of work in 24 days. How many days will it take to complete the same work if all of them work together?
(A) 6 (B) 7.5 (C) 8 (D) 9 (E) none of these

58. If $x < 1/x$, then which of the following must be true?
I. $x^3 > x^2$ II. $x^2 > x^3$ III. $x > x^2$
(A) only I (B) only II (C) only III (D) both II and III (E) none of these

59. A trader makes a loss of 10% by selling a cliair at a discount of 28% on the listed price. What will be his profit/loss if he sells the chair at 90% of its listed price?
(A) 10% (B) 12.5% (C) 13.6% (D) 15% (E) none of these

60. If $(2 + \sqrt{x}) > 2\sqrt{x}$, which of the following must be true?
(A) $x < 1$ (B) $x < 2$ (C) $x < 3$ (D) $x < 4$ (E) none of these

Section III: Analytical Ability

15x1 = 15 marks

61. During the month of July in Chittagong, the humidity was always 80 percent or higher whenever the temperature was 75° F or higher. Temperatures that month ranged from 65° to 95° F.
If the statements in the passage above are true, which of the following CANNOT be an accurate report of a temperature and humidity reading for Chittagong in July?
(A) 77° F, 81% (B)75°F, 79% (C)76°F, 80%
(D) 74° F, 78% (E) 73° F, 77%

62. The school bus always stops at the railroad tracks. When the warning light is not flashing, it then proceeds directly across if the tracks are clear. However, when the warning light is not flashing and the tracks are not clear, the school bus waits until they are clear and then proceeds immediately across them
If the statements above are true and it is true that the school bus stops at the tracks and then does not proceed to cross then, which of the following must also be true?
(A) The warning light is flashing and the tracks are clear.
(B) The warning light is flashing and the tracks are not clear.
(C) The warning light is flashing, or the tracks are not clear, or both.
(D) The warning light is not flashing and the tracks are not clear.
(E) The warning light is not flashing, or the tracks are not clear, or both,

63. If it is true that the play ground and the galleries are wet whenever it is raining, which of the following must also be true?
I. If the play ground and the galleries are wet, it is raining.
II. If the play ground is wet but the galleries are not wet, it is not raining.
III. If it is not raining, the playground and the galleries are not wet
(A) I only (B) II only (C) III only (D) I and II only (E) II and III only

Questions 64 to 65

A local cultural and social club's facilities became too little to accommodate the crowd for a day long program. The club managed an authorization to use the public park and a public address system was promptly installed. Citizens who were subscribing to that club protested the action of the Public Works Department for having issued this license.

64. What is the best argument used by the club to retain its authorization?
(A) Wide publicity had already been given to the location of special service.
(B) The public address system was installed at great expense.
(C) The club is a local tax payer.
(D) The park had been used before by other social and political organizations for meetings and concerts.
(E) None of these

65. Which of the following is the best argument used by the citizens who protested the action by the Public Works Department?
(A) Freedom of speech was violated.
(B) Citizens would be denied the enjoyment of the public park during that period.
(C) There would be a violation of the noise-level standards.
(D) A public referendum should have been held.
(E) None of these

Questions 66 to 69

Sagar, the manager of an Audit firm, is to assign cubicles to six staff members. The cubicles are numbered 1 to 6 consecutively and are arranged in a row. The cubicles are separated by six feet high dividers. So voices, sounds and smokes pass from each cubicle to those on either side.

- Barun's work requires him to speak on the phone frequently throughout the day.
- Waned and Bikash often talk to each other in their work and prefer to stay in adjacent cubicles.
- Ghani, a senior employee, is entitled to cubicle 5. It has the largest window.
- Parag needs silence in the cubicle(s) adjacent to his cubicle.
- Akash, Wahed and Parag all smoke. Ghani is allergic to tobacco smoking and must have nonsmokers in the cubicle(s) adjacent to his cubicle.
- Generally all the employees maintain silence in their cubicles unless otherwise specified.

66. Which of the following events, occurring one month after the assignment of cubicles, would most likely to lead to request for a change in cubicle assignment by one or more employees?
(A) Barun is deciding that he needs silence in the cubicle(s) adjacent to his own.
(B) Bikash is contracting laryngitis (inflammation in the lungs and vocal cord).
(C) Parag is giving up smoking.
(D) Akash is taking over the duties formerly assigned to Barun.
(E) None of these

67. The best employee to occupy the cubicle furthest from Bikash will be
(A) Akash (B) Barun (C) Ghani (D) Parag (E) None of these

68. The best location for Wahed is in, cubicle
(A) 1 (B) 2 (C) 3 (D) 4 (E) None of these

69. The three employees who smoke should be placed in cubicles
(A) 1,2 and 3 (B) 1,2 and 4 (C) 1,2 and 6 (D) 2, 3 and 4 (E) None of these

Questions 70 to 75

At a conference, exactly seven speakers --- Quamrul, Ramisa, Samia, Tariq, Umana, Vikash, and Wasiq — are to speak. In the schedule for the conference, there are seven time slots available for speakers, and

the time slots are numbered consecutively 1 through 7. Exactly one speaker must be assigned to each time slot according to the following conditions:

- Quamrul must speak immediately before or immediately after Tariq speaks.
- Tariq must speak sometime before Ramisa speaks.
- Samia must speak in either time slot 1 or time slot 7.
- Vikash must speak in time slot 4.

70. If Ramisa speaks immediately before Vikash speaks, which of the following could be true?
(A) Quamrul speaks in time slot 5. (B) Samia speaks in time slot 1.
(C) Tariq speaks in time slot 3. (D) Umana speaks in time slot 2.
(E) Wasiq speaks in time slot 6.

71. If Wasiq speaks in time slot 7, any of the following pairs of speakers could speak in time slots immediately adjacent to each other EXCEPT?
(A) Quamrul and Ramisa (B) Ramisa and Umana
(C) Samia and Quamrul (D) Samia and Tariq (E) Vikash and Umana

72. If Ramisa speaks sometime before Samia speaks, which of the following must be true?
(A) Quamrul speaks sometime before Umana speaks.
(B) Ramisa speaks sometime before Vikash speaks.
(C) Tariq speaks sometime before Vikash speaks.
(D) Umana speaks sometime before Ramisa speaks.
(E) Wasiq speaks sometime before Quamrul speaks.

73. If Umana is to speak in time slot 2, there will be a total of how many scheduling possibilities from which to select the schedule of speakers?
(A) One (B) Two (C) Three (D) Four (E) Six

74. If Samia speaks in time slot 7, which of the following must be true?
(A) Ramisa speaks sometime after Vikash speaks.
(B) Vikash speaks sometime after Ramisa speaks.
(C) Quamrul speaks in time slot 2.
(D) Tariq speaks sometime before Vikash speaks.
(E) None of these.

75. Inclusion of which conditions will result in only one legal arrangement?
(A) Wasiq speaks in time slot 7 and Umana speaks in time slot 5.
(B) Wasiq speaks in time slot 1 and Umana speaks in time slot 6.
(C) Samia speaks in time slot 1 and Umana speaks in time slot 6.
(D) Wasiq speaks in time slot 7 and Umana speaks in time slot 5.
(E) None of these.

25 Marks

Part II: Writing Ability

A. Write an Essay on **"Mobile Phone and the Young Generation."** [15 Marks]
(Use the space in this page the next to answer this question)

B. Elaborate the following expression [10 Marks]
"Don't Limit your Challenges – Challenge your Limits"
(Use the space in this page the next to answer this question)

ANSWER KEY

Section I: Language and Communication

1.B	2.E	3.C	4.D	5.D	6.B	7.D	8.E	9.B	10.A
11.D	12.C	13.B	14.A	15.A	16.E	17.C	18.B	19.B	20.B
21.E	22.D	23.C	24.A	25.C	26.C	27.D	28.D	29.C	30.C

Section II: Mathematics

31. C	32. A	33. C	34. D	35. B	36. D	37. D	38. C	39. A	40. B
41. A	42. B	43. A	44. B	45. C	46. C	47. C	48. A	49. B	50. D
51. D	52. E	53. C	54. A	55. C	56. A	57. E	58. B	59. B	60. D

Section III: Analytical Ability

61. B	62. C	63. B	64. D	65. B	66. D	67. D	68. C	69. A	70. E
71. A	72. C	73. B	74. D	75. E					

Solution of MBA Admission Test 2013 (June)

Section I: Language and Communication

1. (B)
2. (E) Lay মানে কোন কিছু রাখা। এর বিভিন্ন form গুলো হল Lay- Laid- Laid. আবার lie মানে হল শুয়ে থাকা বা কোন অবস্থান নেয়া। এর বিভিন্ন form গুলো হল Lie- lay-lain. এখানে বলা হচ্ছে বইগুলো টেবিলের উপর ছিল। এমন নয় যে কেউ বইগুলো রেখেছে। তাই সঠিক উত্তর হল E. অর্থাৎ বইগুলো সারা সপ্তাহ ওই টেবিলের উপর পড়ে ছিল।
3. (C) যখন দুটি বিষয়ের বা কোন কিছুর তুলনা হয় তখন comparative form ব্যবহার করতে হয়।
4. (D)এখানে senile people এর memories এর সাথে sound adults দের memories এর তুলনা করা হচ্ছে।
5. (D)এখানে বলা হচ্ছে last week. অর্থাৎ past একটা time কে refer করা হচ্ছে। আর specific past time mention করা থাকলে সেটাকে past indefinite form এ ব্যবহার করতে হয়।
6. (B) ভবিষ্যতে কিছু ঘটতে যাচ্ছে বুঝাতে "is going to" ব্যবহার করা হয়। আর এখানে যেহেতু প্রশ্ন করা হয়েছে সেই জন্য"is" প্রথমে চলে এসেছে।
7. (D) The future perfect tense expresses the idea that something will occur before another action in the future. For example, "By next September, I will have received my promotion". এইখানেও একি নিয়ম প্রযোজ্য হবে।
8. (E) Reciprocation means "behavior in which two people or groups of people give each other help and advantages". এখানে বুঝানো হচ্ছে যে friendship এবং respect হচ্ছে emotion যেটাতে দুই পক্ষেরই একে অপরকে সাহায্য এবং সুবিধা দেয়া প্রয়োজন।
9. (B) Abandon= পরিত্যাগ করা। elude= If a piece of information eludes you, you cannot remember it.Dodge= to avoid something unpleasant. Avoid = এড়িয়ে যাওয়া। shun= বর্জন করা বা এড়িয়ে যাওয়া। এখানে সঠিক উত্তর হবে eluding অর্থাৎ শব্দটি মনে এসেও আসছে না।
10. (A)Scuttle = ছোট পদক্ষেপে দ্রুত ছুটে যাওয়া, বিশেষত পালানোর উদ্দেশ্যে। Dart = হঠাত করে বা দ্রুত move করা। Rush = দ্রুত কোথাও যাওয়া বা কিছু করা। এখানে scuttling হবে।

11. (D) Novice = a person who is not experienced in a job or situation. Thrive = to grow, develop or be successful. Intuitive = able to know or understand something because of feelings rather than facts or proof. Budding = beginning to develop or show signs of future success in a particular area. Insightful = কোন জটিল সমস্যা বা বিষয় পরিষ্কারভাবে ও গভীরভাবে বুঝতে পারার ক্ষমতা।

12. (C) Inkling মানে হল আপনি মনে করেন যে কিছু ঘটতে যাচ্ছে বা কোন ঘটনা সত্য, কিন্তু আপনি নিশ্চিত নন or when you think that something is true or likely to happen, although you are not certain

13. (B)Subscribe to = কোন বিশ্বাস, তত্ত্ব, বা মতামতকে সমর্থন করা বা তার সাথে একমত হওয়া। oblige to = কাউকে কিছু করতে জোর করা। Contradict = কোন কিছুর বিপরীত কিছু বলা। confess to = কোন ভুল কাজের ব্যাপারে স্বীকার করা।

14. (A) Zeal in/for = Great enthusiasm or eagerness. Interest = কোন কিছুর প্রতি আগ্রহ।

15. (A) Attributed to =to say or think that something is the result or work of something or someone else. Ascribed to = to consider that something is caused by a particular person or thing.

16. (E) Pecuniary মানে অর্থ সংক্রান্ত বা টাকা পয়সা সম্পর্কিত। সুতরাং সঠিক উত্তর হল E. Financial মানেও হল টাকা পয়সা সম্পর্কিত বা আর্থিক।

17. (C) Erudite মানে having or containing a lot of specialized knowledge that is gained from academic study. Erudite এর synonym হল learned. Learned = studied for a long time and has a lot of knowledge.

18. (B) Inappropriate মানে হল অনুপযুক্ত বা বেমানান বা গ্রহণযোগ্য নয় এমন। এর synonym হল Unbecoming= not suiting a particular person. যার অর্থ হল অনুপযুক্ত বা বেমানান।

19. (B) এখানে subject হল evervone যা singular. সুতরাং পরের pronoun টাও singular হতে হবে। কিন্তু এখানে দেয়া আছে "Because All". তাই all এর পরিবর্তে each হবে।

20. (B) এখানে coming হল Gerund. আর আমরা জানি Gerund কে modify করতে Possessive adjective লাগে। সুতরাং B তে your coming হবে।

21. (E)

22. (D) বাইরে থেকে ভিতরে প্রবেশ করা বুঝাতে come into বসে। In বসে তখনি যখন কোনকিছু already ভিতরে আছে এমন বুঝায়।

23. (C) এটা 3rd Conditional এর rule এ পরবে। 3rd conditional এর ক্ষেত্রে আমরা জানি যে if clause যদি past perfect tense হয়, তাহলে পরের অংশ would have/ could have/ might have + Verb এর past participle form হয়। এখানে if clause past perfect tense, তাই conditional sentence এর অপর অংশ would have/ could have/ might have + Verb এর past participle form এ হবে। সুতরাং option C তে Could have improved হবে।

24. (A) Brisk = Quick, energetic and active. (i) এ বলা হয়েছে a brisk walkযা অর্থবোধক এবং grammatically correct. (ii)এ বলা হচ্ছে অনেক দিন strike এর পর ব্যবসা আজ বেশ সতেজ ও কর্মচঞ্চল। এটাও অর্থবোধক। (iii)এ বলা হয়েছে গ্রীষ্মের প্রচন্ড গরমে সারা দিন কাজ করার পর তারা বেশ সতেজ অনুভব করছিলো যেটি অর্থবোধক মনে হয় না। কারণ এতে আরো tired হবার কথা।

25. (C) Assuage = কোন কিছু (ব্যাথা, পিপাসা, ক্ষুধা ইত্যাদি) উপশম করা। (i) এবলা হচ্ছে একটা Hearty meal ই কেবল তার ক্ষুধা উপশম করতে পারে যা অর্থবোধক। (ii) এ বলা হচ্ছে কোন Scheme (কোন কিছুর ধারাবাহিক কর্মপরিকল্পনা বা প্রকল্প) কে assuage করা যা কোন অর্থ তৈরি করে না। (iii) এ বলা হচ্ছে রাতে একটা শিশু যখন কেঁদে উঠে তখন কেবল তার মায়ের স্পর্শই তাকে শান্ত করতে পারে। এটিও অর্থবোধক

26. (C) এখানে বলা হচ্ছে কোন option টি কোন গ্রুপ বলেনি। C তে বলা হচ্ছে perception নয় attitude টা একটা বিষয়, যেটা কোন গ্রুপ conclude করেনি। ২য় প্যারা এর প্রথম লাইনে perception এর ব্যাপারে বলা আছে।

27. (D) এখানে চাওয়া হচ্ছে কোন অপশনটা সঠিক হলে passage এর কোন একটা উপসংহার নিয়ে সন্দেহ আসবে। অপশন D তে আছে যে যারা optimistic, মাঝে মাঝে তারাও জীবনকে নেতিবাচক দৃষ্টিভঙ্গীতে দেখে। কিন্তু এই কথাটি সত্যি হলে প্রথম গ্রুপের conclusion টা সঠিক হবে না।

28. (D) এখানে বলা হচ্ছে কোন argument টি nature view কে uphold করবে। তাহলে প্রথমে দেখি nature view তে কি বলা হয়েছে। বলা হয়েছে behavior টা হচ্ছে সহজাত বা genetic ব্যাপার। আবারD option এ বলা হচ্ছে একটা situation challenging কিনা এটা নির্ভর করে individual perception এর উপর, যা nature view কে support করে।

29. (C)প্যাসেজ টা মূলত একজনের ইতিবাচক বা নেতিবাচক দৃষ্টিভঙ্গীর ভিত্তির বিভিন্ন point of view এর উপর একটা ছোট বর্ণনা দিয়েছে। এটা কোন Conclusive discussion না, আবার কোন through analysis-ও নয় কিংবা কোন denunciation ও নয়।

30. (C) এখানে বলা হচ্ছে নিচের কোনটি সঠিক হলে সেটা কোন একটা viewpoint কেসমর্থন করবে। অপশন C তে বলা হচ্ছে একগ্রুপ বিভিন্ন পরিস্থিতে কিভাবে respond করে সেটা শুধুমাত্র তার perception এর উপর নির্ভর করে। এই কথাটি প্রথম গ্রুপ এর findings কে support করে।

Section II: Mathematics

31. (C) যেকোনো opposite two sides কে 4cm বাড়ালে length হবে20 + 4 = 24 cm
আবার opposite two sides কে 4cm কমালে lengthহবে20–4 = 16 cm
তাই resultant figure এর area হবে 24 x 16 = 384 sq. cm.

32. (A) $\frac{2x+4y+6z}{6} = \frac{x+2y}{2}$
Or, 4x + 8y + 12z = 6x + 12y
Or, 12z = 2x + 4y
Or, z = (x + 2y) / 6

33. (C)ধরি, home থেকে office এর distance = x
দুই দিনের office এ পৌছানোর সময়ের ব্যবধান = 15 minutes, or (15 / 60) hour
$\frac{x}{20} - \frac{x}{30} = \frac{15}{60}$
Or, 3x – 2x = 15
Or, x = 15

34. (D) a, b, c are odd integers.
তাই'ac' odd হবে এবং 'bc' ও odd হবে। কিন্তু এদের বিয়োগফল (ac-bc) = even হবে।
So 3(ac – bc) must be even.

35. (B) $n^2 + 7n - 3 < n^2 + 5n + 9$
7n – 5n < 9 +3
2n < 12 or, n < 6
So largest integer value of n is 5.

36. (D) 10জনেরaverage = 400
10জনের total = 400 x 10 = 4000
1জনের Possible maximum wage বের করার জন্য বাকি 9 জনের wage lowest ধরে নিতে হবে।
তাই বাকি 9 জনের total wage = 300 x 9 = 2700
1 জনের Possible maximum wage = 4000 – 2700 = 1300

37. (D) $A = \frac{7C}{B+0.5C}$
Or, AB + AC/2 = 7C; or, 2AB + AC = 14C; or, 14C – AC = 2AB
Or, C (14 –A) = 2AB; or, C = 2AB / (14 –A)

38. (C) $z = x + y$; or, $x = z - y$; or $2x = 2z - 2y$
Now, $(z - 2x) = z - (2z - 2y) = 2y - z$

39. (A) পূর্বের থেকে20% কম মূল্যে –
0.8y টাকায় পাওয়া যায়16 টি কলম
1টাকায় পাওয়া যায় 16/0.8y টি কলম
zটাকায় পাওয়া যায় 16z/0.8y টি কলম = 20z/y টি কলম

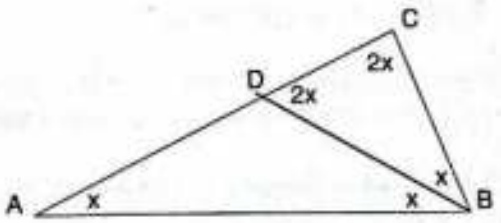
40. (B) Salary of X:Y = 1:2 and salary of X:Z = 1:3
অতএব Salary of X:Y:Z = 1:2:3
1000 টাকা বৃদ্ধির পূর্বে Z পায়= 24000 টাকা
1000 টাকা বৃদ্ধির পূর্বে Yপায়= $24000 \times \frac{2}{3}$ টাকা = 16000 টাকা
Y এখন পায় 16000 + 1000 = 17000 টাকা

41. (A) $\frac{5x}{8} - \frac{x}{6} = 11$
Or, $\frac{15x-4x}{24} = 11$
Or. $11x = 24 \times 11$; or, $x = 24$
So $3/4^{th}$ of that number = $24 \times \frac{3}{4} = 18$

42. (B) $-9 < x < 9$ and $0 < y < 14$.
As x and y are integers, so greatest possible value of $(y - x) = 13 - (-8) = 21$

43. (A) May তে মূল্য বেড়েছে 60 x 12/100 = 36/5 টাকা
July তে গিয়ে মোট বেড়েছে 36/5 + 3 = 51/5 টাকা
60 টাকায় মূল্য বেড়েছে 51/5টাকা, যা100টাকার17%

44. (B) যেহেতু AC = AB, তাই <ACB = <ABC
আবার BD = AD, তাই <DBA = <DAB
আবার BC = BD,তাই <BDC = <BCD
বহিঃস্থ <BDC = বিপরীতে অন্তঃস্থ <DAB + <DBA
এখন $2x + 2x + x = 180°$
বা$5x = 180°$
বা $x = 36°$



45. (C) 500 580
550
30 : 50

So the ratio will be 30: 50 or 3: 5

46. (C) x and y are negative and z is positive.
Option (i) এবং option (ii) সত্য হবে কিনা এটা বলার জন্য অবশ্যইx, y এবং z এর value জানতে হবে।
কিন্তু option (iii) এ, y negative হওয়ায়1/y ও negative হবে, আবার z positive হওয়ায়1/z ও positive হবে। তাই option (iii), 1/y < 1/z must be true.

47. (C) টাকা 10, 20, 30 remove করা হলে মোট amount দাড়ায় 3660 – 60 = 3600.
তখন X, Y ও Z এর share এর ratio হয় 3:4:5
তাই.X পায়= 3600 x$\frac{3}{12}$= 900 টাকা
সুতরাং X originally পেয়েছে = 900 + 10 = 910টাকা

48. (A) men: women = 16 : 7 or, 160 : 70
Let, men = 160, then women = 70
60% women married, which is 70 x 60% = 42
Married men হবে42 x 4/3 = 56
160 জন men এর মাঝে 56 জন married, যা হচ্ছে percentage এ35%.

49. (B)$\frac{x}{y}<\frac{x+1}{y+1}$
Or, xy + x <xy + y
Or, x < y, which is must be true

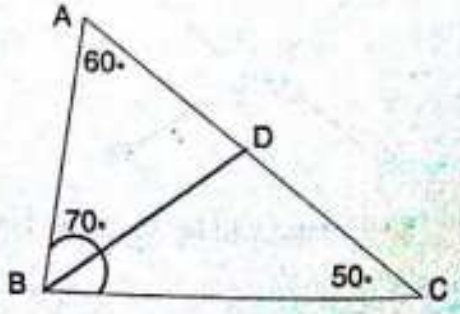
50. (D)x কে 9 দিয়ে ভাগ করলে 5 remainder থাকে, সুতরাং x+1কে 9 দিয়ে ভাগ করলে 6 remainder থাকবে। 6 কে 3 দিয়ে ভাগ করা যায়, আবার কোন সংখ্যাকে 9 দিয়ে ভাগ করা গেলে 3 দিয়ে অবশ্যই ভাগ করা যাবে।
সুতরাং x+1কে অবশ্যই 3 দিয়ে ভাগ করা যাবে।

51. (D) 1টি silver bar এর weight = 10 gm
36টি silver bar এর weight = 36 x 10 = 360 gm
সুতরাং 24 টি gold bar এর weight = 960 – 360 = 600 gm
1 টি gold bar এর weight = 600/24 = 25 gm

52. (E) It is given that, x > 0 and y < 0. অর্থাৎ x এর value positive যেকোন সংখ্যা এবং y এর value negative যেকোন সংখ্যা হতে পারে। কিন্তু x ও y এর specific value না জানলে কোন option কেই must be true বলা যাবে না।

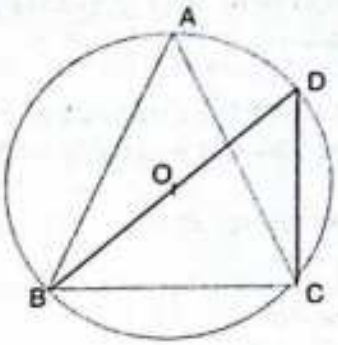
53. (C) তিনটি positive integer x, y, z এর product, xyz = 600.
If x = 5, then yz = 600/5 = 120.
বের করতে হবে y ও z এর যোগফল এর least possible value অর্থাৎy ও z এর value যত সম্ভব কাছাকাছি হতে হবে।
120 = 10 x 12,তাই y ও z এর value যথাক্রমে 10ও12.
y + z = 10 + 12 = 22.

54. (A) i) true, কারণ triangle BDCএ বহিঃস্থ <ADB = বিপরীত অন্তঃস্থ <DBC + <DCB
বা,<ADB –<DBC = <DCB = 50°
II) কখনোই সম্ভব নয়।
iii) হতেও পারে, আবার নাও হতে পারে। so must be true বলা যাবে না।



55. (C) x and y are both positive integers and both divisible by 4, তাহলে তাদের square এর যোগফল অবশ্যই কিসে divisible হবে। Let, $x = 4$ and $y = 16$, then $x^2 + y^2 = 272$, which is divisible by 8.

56. (A) AB = AC, so $\angle ABC = \angle ACB = 62°$
তাই $\angle BAC = 56°$. আবার samearc BC থেকে $\angle BAC$এবং$\angle BDC$
বৃত্তস্থ কোন, তাই $\angle BDC = 56°$
আবার $\angle BDC$ হচ্ছে অর্ধবৃত্তস্থ কোন। তাই $\angle BCD = 90°$
সুতরাং $\angle DBC = 180° - 90° - 56° = 34°$
তাহলে $\angle ABD = \angle ABC - \angle DBC = 62° - 34° = 28°$



57. (E) $1/x + 1/y = 1/18$
$1/y + 1/z = 1/12$
$\underline{1/x + 1/z = 1/24}$
$2(1/x + 1/y + 1/z) = 13/72$
$1/x + 1/y + 1/z = 13/144$
সুতরাং x, y, ও z একত্রে 13/144 অংশ কাজ করে 1দিনে
তাই x, y, ও z একত্রে সম্পূর্ণ কাজ করে 144/13দিনে = 11.077দিনে

58. (B) $x < 1/x$, অর্থাৎ x এর value হতে পারে negative, যেমন - 5 অথবা 1 থেকে ছোট যেকোনো positive fraction যেমন 1/5. উভয়ক্ষেত্রেই option (ii), $x^2 > x^3$ সত্য হবে। বাকি দুটি option must be true হবে না।

59. (B) Let, the listed price was 100 Tk.
তাহলে 28% discount এ sell করেছে 72 টাকায়।
এখানে 10% loss হওয়ায় cost price = $72 \times 100/90 = 80$টাকা।
আবার listed price এর 90% দামে মানে 90 টাকায় বিক্রি করলে profit হয় $90 - 80 = 10$টাকা।
80 টাকায় profit হয় 10 টাকা, যা percentage এ 12.5%

60. (D) $2 + \sqrt{x} > 2\sqrt{x}$
$2 > 2\sqrt{x} - \sqrt{x}$
$2 > \sqrt{x}$
$4 > x$; or, $x < 4$

Section III: Analytical Ability

61. (B) Humidity80% বা বেশি থাকে যখন temperature 75 degree বা তার বেশি থাকে। তাহলে 75 degree temperature হলে humidity 79% হওয়া কখনোই সম্ভব নয়।

62. (C) স্কুল বাস railroad tracks এ সবসময় থামে। এরপর যদি warning light flash না করে এবং racks clear থাকে, শুধু তাহলেই school bus সামনে অগ্রসর হয়। এখন প্রশ্নে বলা হচ্ছে যে school bus railroad tracks এ থেমে আছে এবং সামনে অগ্রসর হচ্ছে না। That means, the warning light is flashing, or the tracks are not clear, or both.

63. (B) Playground and the galleries are wet whenever it is raining. অর্থাৎ বৃষ্টি হলে playground and galleries অবশ্যই wet থাকবে। কিন্তু এটা বলা নাই যে playground and galleries বৃষ্টি না হলে অন্য কোন ভাবে wet থাকতে পারে না। তাই শুধুমাত্র option (ii) must be true হবে। যেখানে বলা আছে If the playground is wet, but the galleries are not wet, it is not raining.

64. (D) Club এর accommodation facility কম হওয়ায় তারা public park এ একটা day long program করতে চাচ্ছে। এজন্য ঐ public park এর subscribed citizen রা protest করছে। Club এর পক্ষ থেকে এই সময় best argument তাতে পারে এটা বলা যে এই park আগেও socilal and political organization এর meeting এবং concert এর জন্য ব্যবহৃত হয়েছে।

65. (B) Public park এর subscribed citizen যারা protest করছে, তাদের জন্য best argument হতে পারে যে citizen রা এই program এর জন্য park এ ভ্রমন এবং বিনোদন থেকে বঞ্চিত হবে।

Questions: 66 – 69

According to the conditions, following will be the six assigned cubicles for the staff members for this puzzle.

Parag	Akash	Wahed	Bikash	Ghani	Barun
1	2	3	4	5	6

66. (D) Parag এর silence প্রয়োজন। Barun এর উপর assigned duty Akash নিয়ে নিলে সে সারাক্ষন phone এ কথা বলবে। এতে Parag এর disturb হবে এবং সে arrangement change এর জন্য complain করবে।

67. (D) Bikash থেকে সবচেয়ে দূরে থাকবে Parag. Cubicle 4থেকে 1.

68. (C)Wahed বসবে cubicle 3 এ।

69. (A) যে তিনজন smoke করে তারা বসবে cubicle1, 2,৩3এ ।

Questions: 70 – 75

70. (E) Ramisa, Vikash এর পূর্বে speech দেওয়া মানে 3 no. slot এ speech দেওয়া। সেক্ষেত্রে Tariq ও Quamrul অবশ্যই 1 ও 2no slot এ এবং Samia7 no. slot এ speech দিবে। So Wasik could speak in time slot 6. বাকি option গুলো সম্ভব নয়।

71. (A) Wasiq time slot 7এ speech দেওয়া মানে Samia time slot 1 এ speech দিবে। আবার Vikash সবসময় time slot 4 এ speech দিবে এবং Tariq ও Quamrul অবশ্যই পাশাপাশি speech দিবে। তাই Quamrul ও Ramisa immediately adjacent speech দিতে পারবে না।

72. (C) Ramisa, Samia-র আগে speech দেওয়া মানে Samia time slot 7 এ speech দিবে। আবার Vikash সবসময় time slot 4এ speech দিবে এবং Tariq, Ramisa-র আগে speech দিবে। তাই time slot 6 এ Tariq থাকতে পারবে না, আবার slot 5 এ ও থাকতে পারবে না কারন ওর সাথে Quamrul কে থাকতে হবে। So Tariq must speak sometime before Vikash speaks.

73. (B)

Samia	Umana	Wasiq	Vikash	----------	----------	Ramisa
1	2	3	4	5	6	7

Umana 2 no. time slot এ speech দিলে Tariq এবং Quamrul ছাড়া বাকি সবার জন্য slot fixed হয়ে যায়। Tariq এবং Quamrul কে 5 ও 6 no. slot এ যেকোন ভাবে সাজানো যায়। So possible schedules become only two.

74. (D) এখানে Samia time slot 7এ speech দিবে। আবার Vikash সবসময় time slot 4 এ speech দিবে এবং Tariq, Ramisa-র আগে speech দিবে। তাই time slot 6 এ Tariq থাকতে পারবে না। আবার slot 5 এও থাকতে পারবে না কারন ওর সাথে Quamrul কে থাকতে হবে। So Tariq must speak sometime before Vikash speaks.

75. (E) Original conditions অনুযায়ী Tariq এবং Quamrul পাশাপাশি speech দিবে। কিন্তু কে আগে দিবে বা কে পরে দিবে, এমন কোন শর্ত নেই। এই প্রশ্নের নতুন condition গুলোর কোনটাতেই যেহেতু Tariq বা Quamrul এর timeslot এর কথা উল্লেখ নেই, তাই এদের দুইজনকে পাশাপাশি যেকোন ভাবে সাজানো যায় এবং একাধিক legal arrangements পাওয়া যায়। তাই option গুলোর কোন condition দিয়েই only one legal arrangement পাওয়া সম্ভব নয়।

MBA (IBA)

Admission Test Question 2014 (November) with Solution

IBA-MBA Admission Test, November-2014

Section I: Language

Questions 1 to 5

Instruction: *Underlined parts of the following sentences my contain error (s) in grammar, diction, usage or idiom. Choose the underlined portion that is incorrect. If there is no error then select (E).*

1. I have had (A) lots of worries (B) in my life, none of which (C) never came true. (D) No error (E)
2. If I had talked (A) with him in person, the confusion would not (B) have arisen. (C) No error (D) (E)
3. What is (A) the use of all these degrees (B) if we can't teach people (C) to differentiate from (D) right and wrong? No error (E)
4. During Sima's visit to her hometown, she was surprised to (A) see how little her (B) village had changed in (C) the last twenty (D) years. No error (E)
5. He suggested that (A) we finished (B) our work quickly for (C) attending the party on time. (D) No error (E)

Questions 6 to 10

Instruction: *Select the choice that best replaces the underlined part of the given sentences conveying the original meaning. If you think that the original sentence is the best choice, select the first choice.*

6. You could invest in this house; it is actually less smaller than the other one.
   A. You could invest in this house; it is actually less smaller than the other one.
   B. You could invest in this house; it is actually less small compared to the other one.
   C. You should invest in this house; it is actually smaller than the other one.
   D. You can invest in this house; it is actually less smaller than compared to the other one.
   E. You could invest in this house; its actually less small than the other one.
7. I will have been working here for ten years by next week.
   A. will have been working here for ten years
   B. will have been working here since ten years
   C. will be working here for ten years
   D. will be working here since ten years
   E. have had been working here for ten years
8. He almost has to work for twelve hours daily.
   A. almost has to work for
   B. nearly has to work for
   C. almost have to work for
   D. have to work for almost
   E. has to work for almost
9. Regarding how long you've been using tobacco, you can still overcome your addiction to smoking.
   A. Regarding how long you've been using tobacco
   B. No matter how long you've been using tobacco
   C. Even though how long you've been using tobacco
   D. No matter how long you had been using tobacco
   E. Regarding how long you will have been using tobacco
10. If only she has come to me for help, I was going to help her.
   A. If only she has come to me for help, I was going to help her.
   B. If only she did come to me for help, I am going to help her.
   C. If only she has come to me for help, I was to help her.
   D. If only she had come to me for help, I would have helped her.
   E. If only she came to me for help, I was going to help her.

Questions 11 to 18

Instruction: *Choose the most appropriate word (s)/phrase to fill in the blank in the given sentence.*

11. She is very affectionate ------ her younger siblings.
    A. towards B. over C. with D. upon E. at
12. Precise, well-documented information ------ than general and unsubstantiated opinion.
    A. is by far convincing B. is more far convincing
    C. can be convinced D. is far more convincing
    E. is farther convincing
13. ------ she tries very hard to suppress her sorrow, it becomes very evident form her face every time.
    A. No matter B. Besides C. Even though D. Therefore E. Nevertheless
14. I did not do it intentionally; it was totally ---------- .
    A. inadvertent B. in deliberate C. fortunate D. inadequate E. inevitable
15. He was really notorious for his ------- ways.
    A. magnanimous B. benevolent C. benign D. sleazy E. innocuous
16. Why ---------- Alam arrived yet? Do you think he has lost his way?
    A. didn't B. hasn't C. isn't D. wasn't E. hadn't
17. Statistics show that unemployment rates ---------- among the adults who attended school ----- years.
    A. is greatest ; the least number of B. is higher ; the lowest
    C. are largest ; the least number of D. are the highest ; the fewest
    E. are greatest ; the smallest
18. If it ----- up to me, I --------- change the decor to make it homely.
    A. was, would B. were, would C. were, shall D. is, will E. is, would

Questions 19 to 22

Instruction: *Answer the Questions based on the following article.*

Popular sentiment against globalization has often been directed as a perceived engine of a Western consumer culture of fast food, gadgetry and cinema imposed on the entire world.

The process of globalization is resulting in the marketing not only of consumer products, but also of culture and indigenous traditions of different societies. The globalization and westernization of culture is taken by traditional and ancient cultures as cultural aggression and a threat to such societies through media, information technology, and social and political changes.

Perhaps by far the most far-reaching effect of cultural globalization is the commercialization of culture. Production and consumption of cultural goods and services have become commodities. In a way very similar to economic globalization, most people (and especially the poor) do not experience cultural globalization on terms that they have decided for themselves. Culture – whether it is music, food, clothes, art, sport images of age or youth, masculinity or femininity – has become a product sold in the market place.

The commercialization of culture has a disturbing impact on people. What once was an element of their way of life has become a product, rather than being something unique they had made to sui: their own specific needs and circumstances. At the same time, people are increasingly bombarded with new images, new music, new clothes, and new values. The familiar and old are to be discarded. While there was cultural change long before globalization, there is a danger that much will be lost simply because it is not valued by global markets.

Cultural globalization destroys diversity and displaces the opportunity to sustain decent human life through an assortment of many different cultures. It is more of a consequence of power concentration in the global media and manufacturing companies than the people's own with to abandon their cultural identity and diversity.

19. The central theme of this passage is ----
A. Globalization could have been beneficial if it had led only to marketing of consumer products.
B. Globalization and how it affects different cultures.
C. Commercialization of culture is an effect of people's wish to desert their cultural identity.
D. Some indigenous traditions can be wiped away if they are not valued in global markets.
E. Globalization of culture is the means by which western countries dominate the world.

20. All of the following statements can be inferred from the passage except -----
A. Western culture is transferred to different societies through the proliferation of their fast food and cinema.
B. Cultural change occurs due to globalization solely.
C. Cultural globalization can harm diversity.
D. Media and information technology are powerful drivers of cultural globalization.
E. The most profound effect of cultural globalization is the commercialization of culture.

21. The word 'perceived' in line 1 of the first paragraph can be best substituted with -----
A. inferred B. regaled C. alleged D. fabricated E. rendered

22. The term "cultural aggression" in line 3 of the 2nd paragraph means ------
A. violent attack on ancient cultures by western countries.
B. forcefully breed terrorism in a country.
C. aggressively market foreign products and services.
D. violent attack on a country's heritage as well as social and religious values.
E. positive impact of western culture on traditional societies.

Questions 23 to 26

Instruction: *Identify the sentence(s) that is/are showing the correct use of the given word in bold.*

23. Council
i. It is the Counular's discretion to restrict admittance of religious zealots from entering the country.
ii. There is hardly anything that can be done now since the council has already passed its decision on the matter.
iii. In this turbulent time, I would council you to not take any rash decision.
A. i only B. both i and ii C. ii only D. both ii and iii E. iii only

24. Ash
i. It is believed that the phoenix rises from its ashes.
ii. The ash-tray was made of pure silver.
iii. I could hardly recognize him with the ashed face – looking pale and haggard.
A. i only B. both i and ii C. ii only D. both ii and iii E. iii only

25. Naive
i. I was naived into entering the poll and gave honest answers to the researcher's probing questions about my lifestyle.
ii. You are truly naive if you really believe these contests actually pay real money!
iii. In my first vacation abroad, I remember my naivety in falling for souvenirs apparently of 'historical value'.
A. i only B. both i and ii C. ii only D. both ii and iii E. iii only

26. Gratify
i. Your presence at the 80th birthday party has really gratified your grandmother.
ii. After all that have been done for him, he is an ingrate to not acknowledge any of it!
iii. It is deplorable how people ingratiate themselves with bosses for a little favor.
A. i only B. both i and ii C. ii only D. i,ii and iii E. iii only

Questions 27 to 30

Instruction: *Select the choice that best expresses the underlined word in each sentence.*

27. It is important to <u>familiarize</u> yourself with your surrounding as quickly as possible.
A. orientation B. redeem C. reconnoiter D. acquaint E. none of these

28. The parents did not pay any heed to Nazmul's <u>impromptu</u> trip to Chittagong.
A. spontaneous B. well planned C. long D. pleasure E. expensive

29. The management has failed to <u>articulate</u> the ideal policies and practices to reduce corruption in the company.
A. enunciate B. resolve C. resonate D. initiate E. sieve

30. She possessed a regal <u>countenance</u> and carried herself with an easy grace.
A. presence B. expression C. strength D. character E. personality

Section II: Mathematics

Instruction: *DO NOT USE CALCULATOR. Figures are not drawn to scale.*

31. There are 4 women and 4 men sitting in a waiting room for job. If two of the applicants are selected at random, what is the probability that both will be women?
A. ½ B. 3/7 C. ¾ D. 1/14 E. none of these

32. The average of six numbers is 6. If 3 is subtracted from each of four of the numbers, what is the new average?
A. 2.5 B. 3 C. 3.5 D. 4 E. none of these

33. If $(x + 4)^2 = 25$ and $(y + 3)^2 = 25$, then the minimum value of y/x is -
A. – 1 B. – 2 C. – 8 D. – 2/7 E. none of these

34. The length of one edge of a square equals 4. What is the distance between the center of the square and one of its vertices?
A. 2 B. $2\sqrt{2}$ C. $2\sqrt{3}$ D. $4\sqrt{2}$ E. none of these

35. If a b, and c are not equal to 0 or 1 and if $a^x = b$, $b^y = c$, $c^z = a$, then xyz =?
A. 0 B. 1 C. 2 D. a E. none of these

36. If x, y and z are positive integers such that x is a factor of y, and x is a multiple of z, which of the following is not necessarily an integer?
I. (y + z)/x II. (xy)/z III. (yz)/x
A. I B. II C. III D. I and II E. II and III

37. The time it took car A to travel 400 miles was 2 hours less than the time it took car B to travel the same distance. If car A's average speed was 10 miles per hour greater than that of car B, what was car B's average speed, in miles per hour?
A. 20 B. 30 C. 40 D. 50 E. none of these

38. If x and y are both integers and xy = 27z, then which of the following must be odd?
A. (x + y + z) B. xyz C. (x + y + 2 z) D. xy – z E. none of these

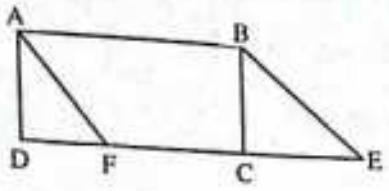
39. If x < y and z > 0, which of the following must be true?
I. z/x < z/y II. (z – y) < (z – x) III. xz<yz
A. I B. II C. III D. I and II E. II and III

40. If n is an integer greater than 4, which of the following must be divisible by 3?
A. n(n + 1) (n – 2) B. $n(n^2 + 4)$ C. 4n(n – 1) D. $n(n^2 – 1)$ E. none of these

41. If x is a positive integer, what is the remainder when 3^{4x+2} is divided by 5?
A. 0 B. 1 C. 3 D. 4 E. none of these

42. Fifty percent of the members in a club are married and doctor by profession. 25% of the unmarried members are doctor. If 40% of the members are not doctor, what percent of the members are unmarried and doctors?
A. 10% B. 15% C. 20% D. 22.5% E. none of these

43. In the figure, ABCD is a rectangle and AF is parallel to BE. If BC = CE = 5 cm, and AB = 10 cm, then what is the area of ΔAFD in cm^2?
A. 12.5 B. 15 C. 25 D. 50 E. none of these



44. Jasim bought two varieties of rice, costing Tk. 50 and Tk. 60 per kg each, and mixed them in some ratio. Then he sold the mixture at Tk. 70 per kg, making a profit of 20 percent. What was the ratio of the mixture?
A. 1 : 10 B. 1 : 5 C. 2 : 7 D. 3 : 8 E. none of these

45. The total income of Tawfiq in the years 2003, 2004 and 2005 was BDT 36,400. His income increased by 20% each year, what was his income (BDT) in 2005?
A. 5,600 B. 8,800 C. 12,000 D. 14,400 E. none of these

46. When x is divided by 13, the answer is y with a reminder of 3. When x is divided by 7 the answer is z with a remainder of 3. If x, y, and z are all positive integers, what is the remainder of yz/13?
A. 0 B. 3 C. 4 D. 7 E. none of these

47. If the average (arithmetic mean) of x and y is 60 and the average (arithmetic mean) of y and z is 80, what is the value of (z – x)?
A. 70 B. 40 C. 20 D. 10 E. none of these

48. If c and d are two integers and @ is an operator such that @ (p, q) = (p + 1) (q + 1). If @ (c, d) equals the product of 3 and 5, then what should be the value of c + d if cd =3?
A. 11 B. 0 C. 5 D. 6 E. none of these

49. 2pq5 is a four digit number divisible by 25. If the number formed from the two digits pq is a multiple of 13, then pq =?
A. 10 B. 25 C. 52 D. 65 E. none of these

50. A factory has 500 workers, 12 percent of whom are women. If 80 additional workers are to be hired and all of the present workers remain, what percent of the new workers must be women in order to raise the total percent of female workers to 20 percent?
A. 70% B. 50% C. 32% D. 20% E. none of these

51. A certain elevator has safe weight limit of 2,000 pounds. What is the greatest possible number of people who can safely ride on the elevator at one time with the average (arithmetic mean) weight of half the riders being 180 pounds and the average weight of the others being 215 pounds?
A. 7 B. 8 C. 9 D. 10 E. none of these

52. Due to huge stockpiling, a shop is offering a huge discount on pen. The price of the first pen is Tk. 10, the next one is Tk. 5 and for any additional purchase you pay Tk. 3 per piece. You bought some pens and found that the average price per pen was Tk. 3.60. How many pens did you buy?
A. 12 B. 15 C. 16 D. 18 E. none of these

53. In a club, 40 percent of the members are doctors and 70 percent are non-engineers. What percent of those members who are not doctors are non-engineers?
A. 30 B. 43 C. 50 D. 72 E. none of these

54. An equilateral triangle is inscribed in a circle. If the radius of the circle is 2, what is the area of the triangle?

A. $\sqrt{2}/2$ B. $\sqrt{2}$ C. $\sqrt{3}$ D. $3\sqrt{3}$ E. none of these

55. If $33^2 - 17^2 = 25x$, what is the value of x?
A. $14^2/25$ B. 20 C. $16^2/25$ D. 32 E. none of these

Questions 56 to 60
Each problem consists of a problem followed by two statements. Decide whether the data in the statements are sufficient to answer the question. Select your answer according to following conditions.

A. statement (1) alone is sufficient, but statement (2) alone is not sufficient to answer the question
B. statement (2) alone is sufficient, but statement (1) alone is not sufficient to answer the question
C. both statements taken together are sufficient to answer the question, but neither statement alone is sufficient
D. each statement alone is sufficient
E. statement (1) and (2) together are not sufficient, and additional data is needed to answer the question

56. At least 200 students at a certain school play football. If 5% of the students at the school who play cricket also play football, do more students at the school play cricket than football?
1. 20 students at the school play both cricket and football.
2. 10 percent of the students at the school who play football also play cricket.

57. Is $xyz > 0$?
1. $(x - 3)(y - 3) > 0$
2. $(z - 3) > 0$

58. The ratio of the number of BBA students to the number of MBA students to the number of EMBA students in a room is 5 : 4 : 3, respectively. What is the total number of people in the room?
1. The total number of BBA students and MBA students in the room is 18.
2. There are fewer than 10 MBA in the room.

59. Arif spent a total of Tk. 400 to buy one kind of pen and one kind of pencils. How many pens did he buy?
1. The price of 2 pens was Tk. 20 less than the price of 3 pencils.
2. The average price of 1 pen and 1 pencil is Tk. 40.

60. The distance between Arif's house and office is D km. On Monday, Arif traveled to his office at M km./hr for the first 20 km. and the rest at a speed of 1.25M km/hr. On Tuesday, Arif Traveled the same distance at a speed of M km./hr. What is the ratio of time taken by Arif to travel from his house to office on Monday and Tuesday?
1. M = 48
2. D = 40

Section III: Analytical Ability

Questions 61 to 64

Seven offices of IBA are to be painted. The offices, which are on one side of a hallway, are numbered consecutively, one to seven, from the front of the building to the back. Each office is to be painted one color only according to the following conditions:

Two offices white, two offices blue, two offices green, and one office must be painted yellow.
The two offices painted green must be next to each other.
The two offices painted blue cannot be next to each other.
The offices painted yellow cannot be next to an office painted white.
Office 3 must be painted white.

61. If office 2 is painted green which of the following offices must also be painted green?
A. 1 B. 3 C. 4 D. 5 E. 6

62. If office 4 is painted white and an office that is painted green is next to an office that is painted white, which of the following must be true?
A. Office 1 is painted green
B. Office 1 is painted yellow
C. Office 5 is painted blue
D. Office 6 is painted yellow
E. Office 7 is painted blue

63. If office 5 is painted white, which of the following could be true?
A. Office 1 is painted blue
B. Office 2 is painted yellow
C. Office 4 is painted green
D. Office 4 is painted yellow
E. Office 6 is painted blue

64. Which of the following conditions, when combined with the original conditions, has the consequence of completely determining the color that each office is painted?
A. Office 1 must be painted yellow
B. Office 1 must be painted green
C. Office 4 must be painted blue
D. Office 6 must be painted white
E. Office 6 must be painted blue

65. I. From 1975 to 1985, the yearly level of polychlorinated biphenyls, or PCB's, to which the average person is exposed decreased significantly.
II. From 1975 to 1985, the incidence of disease caused by PCB exposure doubled from previous levels, which were already high. This was true even for the group of people whose exposure was average for each year during that period.

Which of the following, if true, would best resolve the apparent contradiction between statement I and statement II above?
A. the diseases caused by PCB's are not very severe.
B. PCB's are not easily destroyed by environmental forces.
C. From 1965 to 1975, the average level of exposure to PCB's also decreased.
D. Between 1985 and the present, the average level of exposure to PCB's increased to pre-1975 levels.
E. the time between the period of exposure to PCB's and the onset of diseases caused by such exposure is often linger than 10 years.

Questions 66 to 69

An agent of the Detective Branch of Bangladesh Police watching suspects Q, R, S, and T and their movements in and out of a downtown building has made the following observations:

- Every day, each of the suspects enters, and later leaves, the building exactly once.
- No suspect ever enters or leaves the building together with another suspect.
- No suspect ever leaves the building in the same position– first, second, third, or fourth– in which he or she entered the building.
- Both in entering the building and in leaving it, R is always earlier than S.

66. Which of the following could be the order, from first to last, in which the suspects leave the building on a day on which they enter it in the order T, Q, R, S?
A. Q, R, S, T B. Q, R, T, S C. R, Q, S, T D. S, T, Q, R E. T, R, S, Q

67. On a day on which R enters the building second and T enters it third, which of the following must be true?
A. Q leaves the building first
B. Q leaves the building third
C. R leaves the building first
D. S leaves the building third
E. T leaves the building second

68. If, on a certain day, Q and T enter the building second and third, respectively, and Q also leaves the building before T does, the order in which the suspects leave the building from first to fourth, must be
A. Q, R, S, T B. Q, R, T, S C. Q, T, R, S D. R, Q, S, T E. R, S, Q, T

69. On a day on which the two suspects who enter the building first are also the two suspects who leave it first, the last two suspects to enter the building could be
A. Q and R B. Q and T C. R and S D. R and T E. S and T

Questions 70 to 75

At stage show, exactly seven singers – Quamrul, Raju, Susmita, Titas, Umana, Vidita, and Wahid – are to sing. In the schedule for the show, there are seven time slots available for singers, and the time slots are numbered consecutively 1 through 7. Exactly one singer must be assigned to each time slot according to the following conditions:

Quamrul must sing immediately before or immediately after Titas sings.
Titas must sing sometime before Raju sings.
Susmita must sing in either time slot 1 or time slot 7.
Vidita must sing in time slot 4.

70. If Umana is to sing in time slot 2, there will be a total of how many scheduling possibilities from which to select the schedule of singers?
A. 1 B. 2 C. 3 D. 4 E. 6

71. If Wahid sings in time slot 7, any of the following pairs of singers could sing in time slots immediately adjacent to each other EXCEPT
A. Quamrul and Raju
B. Raju and Umana
C. Susmita and Quamrul
D. Susmita and Titas
E. Vidita and Umana

72. If Raju sings immediately before Vidita sings, which of the following could be true?
A. Quamrul sings in time slot 5
B. Susmita sings in time slot 1
C. Titas sings in time slot 3
D. Umana sings in time slot 2
E. Wahid sings in time slot 6

73. Which of the following must be true?
A. Quamrul sings sometime before Raju sings
B. Quamrul sings sometime before Vidita sings
C. Susmita sings sometime before Titas sings
D. Vidita sings sometime before Raju sings
E. Wahid sings sometime before Vidita sings

74. If Raju sings sometime before Susmita sings, which of the following must be true?
A. Quamrul sings sometime before Umana sings
B. Raju sings sometime before Vidita sings
C. Titas sings sometime before Vidita sings
D. Umana sings sometime before Raju sings
E. Wahid sings sometime before Quamrul sings

75. If Umana sings sometime before Quamrul sings, which of the following *must be true*?
A. Susmita sings sometime before Umana sings
B. Titas sings sometime before Vidita sings
C. Umana sings sometime before Wahid sings
D. Vidita sings sometime before Raju sings
E. Wahid sings sometime before Susmita sings

Part II: Writing Abilities — **25 Marks**

A. Write an Essay on "The Role of Telecommunication in the Economic Development of Bangladesh". 10 Marks
[Use the space in this page and the next to answer this question]

B. Comment on this famous quotation:
"The word 'impossible' only exists in the dictionary of fools" 15 Marks
[Use the space in this page and the next to answer this question]

ANSWER KEY

Section I: Language and Communication

1.C	2.E	3.D	4.E	5.B	6.C	7.A	8.E	9.B	10.D
11.A	12.D	13.C	14.A	15.D	16.B	17.C	18.B	19.B	20.B
21.A	22.C	23.C	24.A	25.D	26.D	27.D	28.A	29.A	30.B

Section II: Mathematics

31.E	32.D	33.C	34.B	35.B	36.A	37.C	38.E	39.E	40.D
41.D	42.A	43.A	44.B	45.D	46.A	47.B	48.A	49.C	50.A
51.D	52.B	53.C	54.D	55.D	56.B	57.E	58.A	59.C	60.B

Section III: Analytical Ability

61.A	62.E	63.E	64.D	65.E	66.A	67.C	68.A	69.E	70.B
71.A	72.E	73.A	74.C	75.D					

Solution of MBA Admission Test 2014 (November)

Section I: Language and Communication

1. (C)এখানে none of which বলে আবার never বলার দরকার নেই। None of which মানেই কোনটাই সত্য হয়নি। কিন্তু এখানে never কে বাদ দেয়ার সুযোগ নেই। কাজেই none এর পরিবর্তে most/some of which বসানো যায়।
2. (E) এটা 3rd conditional এর বাক্য। যার নিয়ম হল যদি if clause টি Past perfect tense হয় তাহলে পরের lause এ Sub + would/ could/might have + past participle of verb হবে।
3. (D) এখানে differentiate from হবে না। Differentiate between হবে। Differentiate between মানে হল Identify differences between (two or more things or people): যেমনঃ he is unable to differentiate between fantasy and reality. আবার এখানে পরে and আছে তাই আগে between বসাতে হবে। আবার যদি from রেখে শুদ্ধ করতে হয় তাহলে হবে differentiate right from wrong.
4. (E)
5. (B) suggest হল subjunctive. এই জন্য এর পরে Subject এর পর verb word বসবে। অর্থাৎ Finish বসবে। যেমনঃ I suggest that he study.
6. (C) smaller একটা comparative form. তাই এর আগে less বসানো দরকার নেই। আবার less small সঠিক comparative form নয়।
7. (A) We use future perfect continuous tense to express situations that will last for a specified period of time at a definite moment in the future. এখানে সময় অনির্দিষ্ট মানে কোন 10 বছর সেটা specific না, তাই since হবে না।
8. (E) He এর পর have হবে না। তাই C/D বাদ। এখানে অর্থ হল তাকে প্রতিদিন প্রায় 12 ঘন্টা কাজ করতে গহবে।
9. (B) এখানে বাক্যের অর্থটাও গুরুত্বপূর্ণ। শেষ অংশে বলা হচ্ছে "তুমি এখনো ধুমপানের প্রতি আসক্তি দূর করতে পার"। তার মানে প্রথম অংশে হবে "কতদিন ধরে তামাক সেবন করছি সেটা বিষয় না"। এই জন্য সঠিক হবে B. কারণ এখানে present perfect tense এর ব্যবহার হয়েছে যা আগে থেকে শুরু হয়ে কোন কাজ এখানো চলছে বুঝায়। এখানে বুঝাচ্ছে সে অনেক আগে থেকে ধুমপান করে আসছে।
10. (D) D তেই conditional এর সঠিক ব্যবহার হয়েছে। এটা -3rd conditional. যার নিয়ম হল যদি clause টি Past perfect tense হয় তাহলে পরের clause এ Sub + would/ could/might have + past participle of verb হবে।
11. (A)
12. (D) comparison এ জোর দিতে far more/much more বসে।
13. (C) এখানে পরের clause এ বলা হচ্ছে যে তার মুখে তা সুস্পষ্ট ভাবে ফুটে উঠছিল (মানে তার দুঃখের ব্যাপারটা)। এজন্য প্রথম অংশে বসবে even though (যদিও)। মানে হল যদিও সে তার দুঃখ চাপা দেয়ার অনেক চেষ্টা করছিল, প্রতিবারই তার মুখে তা স্পষ্টভাবে ফুটে উঠছিল।
14. (A) Inadvertent – মানে অনিচ্ছাকৃত। এখানে বলা হচ্ছে আমি এটা ইচ্ছা করে করিনি, এটা ছিল সম্পূর্ণ অনিচ্ছাকৃত।
15. (D) এখানে অর্থ হল সত্যিকারই কুখ্যাত ছিল...কারণে। কুখ্যাত যেহেতু তাহলে তার sleazy ways হবে। Sleazy মানে অপ্রীতিকর। Magnanimous = Benevolent = উদার/মহান। benign = হিতকর/উপকারী।
16. (B) এখানে hasn't হবে। কারণ পরে আছে yet যেটা present perfect tense এ ব্যবহৃত হয়।
17. (C) এখানে subject "Unemployment rates" যা plural. এই জন্য A/B বাদ কারণ plural verb লাগবে। আবার D/E তে the smallest/the fewest আছে কিন্তু smallest/fewest কি (এখানে number of years) সেটা বলা নেই। কাজেই এই দুটোও হবে না। C তে verb plural. এবং পরের অংশেও সঠিকভাবে প্রকাশ করা হয়েছে।
18. (B) এখানে আসলে কল্পনা করে কিছু চাওয়া হচ্ছে যা বাস্তবে না। অর্থ হল যদি সেটা আমার হাতে থাকত....."; কিন্তু বাস্তবতা হল তার হাতে আসলে কিছুই করার নেই। এই ধরণের বাক্যে অর্থাৎ কাল্পনিক কিছু বুঝাতেwere বসে এমনকি subject singular হলেও।
19. (B) প্যাসেজের মূল থিম সেটিই হবে যে ম্যাসেজটা পুরো প্যাসেজে দেয়া হয়েছে।A তে বলা আছে শুধু মাত্র ভোগ্যপণ্যের বাজারজাতকরণ হলে বিশ্বায়ন উপকারী হত। কিন্তু আসলে এটা ভুমিকা হিসেবে বলা হয়েছে। পুরো প্যাসেজে আসলে বলা হয়েছে সংস্কৃতির উপর এর প্রভাব। কিভাবে এটাDecent human life কে displace করে দিচ্ছে, culture কেও commercialize করে দিচ্ছে। B তে বিভিন্ন সংস্কৃতির উপর প্রভাবের কথা বলা হয়ছে। C পুরো বিপরীত মেসেজ দিচ্ছে। D & E passage এর অংশ মাত্র, পুরো প্যাসেজের থিম না।
20. (B) প্যাসেজ থেকে এটা বলার কোন উপায় নেই যে সংকৃতির পরিবর্তন সম্পূর্ণভাবে বিশ্বায়নের কারণেই হয়।

21. (A) Perceive = কোন কিছু বোধগম্য হওয়া/অনুভূতির দ্বারা কোন কিছুর ব্যাপারে সচেতন হওয়া। Infer = সিদ্ধান্ত নেয়া/যুক্তি দিয়ে কোন উপসংহার টানা/সঠিক অনুমান করা। regale = প্রচুর খাদ্য বা পানীয় দেয়া। Fabricate = মিথ্যা বা অসত্য কিছু তৈরী করা। Allege = অভিযোগ করা। Render = প্রতিদানে বা বিনিময়ে কিছু দেয়া/পরিশোধ করা/সাহায্য সহযোগীতা দান করা।

22. (C) Cultural aggression বলতে এখানে বুঝানো হচ্ছে প্রাচীন এবং ঐতিহ্যগত সংস্কৃতির বিশ্বায়ন এবং পাশ্চাত্য সংস্কৃতির অনুকরণ। C তে বলা হচ্ছে বিদেশী পণ্য এবং সেবা তীব্র/জোরালোভাবে বাজারজাত করা যেটা মূলত cultural aggression.

23. (C) Council মানে প্রশাসনিক লোকদের দল যেটা নিয়মানুসারে গঠিত (সাধারণত কোন শহর/দেশ/প্রতিষ্ঠান বা এলাকার ব্যাবস্থাপনার জন্য গঠিত এমন। Council বলতে একদল লোককে বুঝায় যাদেরকে কোন ব্যাপারে পরামর্শ বা উপদেশ দেয়ার জন্য/কোন প্রতিষ্ঠানের প্রতিনিধিত্ব করার জন্য নির্বাচিত করা হয়। Consular হল adjective তাই প্রথম বাক্যে এর ব্যবহার সঠিক না। দ্বিতীয় বাক্যে council এর ব্যবহার সঠিক। তৃতীয় বাক্যে আসলে পরামর্শ দেয়ার কথা বুঝানো হয়েছে, এখানে council না হয়ে হবে counsel যার অর্থ হল পরামর্শ বা উপদেশ দেয়া। সুতরাং সঠিক শুধু (II).

24. (A) প্রথম বাক্যে বলা হচ্ছে যে phoenix মানে একটি পাখি যেটা ছাই থেকে emerged বলে বলা হয়। দ্বিতীয় বাক্যে Ashtray বানানে হাইফেন দরকার নাই। তৃতীয় বাক্যে Ashed সঠিক না।

25. (D) মানে সহজ সরল, সাধাসিধে, ছলাকলাহীন। Naïve হল adjective. কাজেই প্রথম বাক্যে এটাকে যেভাবে verb হিসেবে ব্যবহার করে passive করা হয়েছে সেটা সঠিক না। দ্বিতীয় বাক্যে বলা হচ্ছে এই প্রতিযোগীতা পুরস্কার আছে এটা বিশ্বাস করলে তুমি সত্যি অনেক সহজ সরল।Naivety মানে অভিজ্ঞতা বা বিজ্ঞতা বা বিচারবুদ্ধির অভাব। এর ব্যবহার ও সঠিক।

26. (D) Gratify মানে কাউকে আনন্দ দেয়া বা সন্তুষ্ট করা। প্রথম বাক্যে বলা হচ্ছে 80 তম জন্মদিনে তোমার উপস্থিতি তোমার মাতামহকে অনেক আনন্দ দিয়েছিল। Ingrate মানে এমন একজন যে কৃতজ্ঞতা প্রকাশ করে না। দ্বিতীয় বাক্যে বলা হচ্ছে, "তার জন্য সব করার পরেও, সে একটা অকৃতজ্ঞ যে এর কিছুই স্বীকার করল না। Ingratiate মানে ইচ্ছাকৃতভাবে কারো অনুগ্রহ অর্জনের চেষ্টা। তৃতীয় বাক্যের অর্থ হল "এটা সত্যি দুঃখজনক যে সামান্য অনুগ্রহ লাভের জন্য লোকজন কিভাবে বসের কাছে চেষ্টা করে"। এখানে সবগুলো বাক্যই সঠিক।

27. (D) Familiarize মানে পরিচিত করা। Acquaint মানেও পরিচিত করা। Orientation হল noun যার মানে পরিচয়প্রদান পর্ব। Reconnoiter = কাউকে বা কোনকিছু পাবার আশায় অনুসন্ধান করা।

28. (A) Impromptu মানে কোন পূর্বপ্রস্তুতি ছাড়াই/স্বতস্ফুর্তভাবে। spontaneously = স্বতস্ফুর্তভাবে।

29. (A) Articulate = Enunciate = Say (a word, phrase or syllable) in a certain way/Put into words or an expression.

30. (B). Countenance মানে মুখের অভিব্যাক্তি বা প্রকাশভঙ্গী বা expression.

Section II: Mathematics

31. (E) Women আছে 4 জন এবং Men আছে 4 জন।
মোট applicant = 4 + 4 = 8 জন

$\therefore$ দুইজনই women হওয়ার probability = $\frac{4}{8}\times\frac{3}{7}=\frac{3}{14}$

32. (D) মোট number = 6 টি
6 টি number এর average 6.
তাহলে এদের যোগফল = $6 \times 6 = 36$
এখন 4 টি number থেকে 3 করে বিয়োগ করলে মোট বিয়োগ করা হবে = $3 \times 4 = 12$.
$\therefore$ নতুন যোগফল = $36 - 12 = 24$.
তাহলে নতুন average = $\frac{24}{6}=4$

33. (C)

$(x+4)^2 = 25$

$\Rightarrow x+4 = \pm 5$

$\Rightarrow x = 5-4$ or, $x = -5-4$

$\therefore x = 1$ or, $x = -9$

Again,

$(y+3)^2 = 25$

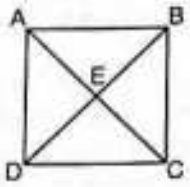
$\Rightarrow y+3 = \pm 5$

$\Rightarrow y = 5-3$ or, $y = -5-3$

$\therefore y = 2$ or, $y = -8$

$\therefore$ The minimum value of $\frac{y}{x} = \frac{-8}{1} = -8$

34. (B)



এই square এর center হচ্ছে E এবং square এর প্রত্যেকটি side 4 করে।

$\therefore$ AB = 4

বের করতে হবে AE =?

Square এর diagonal দুটি পরস্পরের উপর লম্ব এবং ছেদ বিন্দুতে সমদ্বিখন্ডিত হয় অর্থাৎ AE = BE.

এখন ΔAEB এ, AE2 + BE2 = AB2

বা, 2AE2 = AB2 = 42

বা, 2AE2 = 16

বা, AE2 = 8

$\therefore$ AE = $2\sqrt{2}$

35. (B)

$c^z = a$

$\Rightarrow (b^y)^z = a$

$\Rightarrow b^{yz} = a$

$\Rightarrow (a^x)^{yz} = a$

$\Rightarrow a^{xyz} = a^1$

$\therefore xyz = 1$

36. (A) Given that, x is a factor of y, and x is a multiple of z.

Let, z = 3, x = 6, and y = 12

Now,

i. $\frac{y+z}{x} = \frac{12+3}{6} = \frac{15}{6} = \frac{5}{2}$; not an integer

ii. $\frac{xy}{z} = \frac{6\times 12}{3} = 24$; an integer

iii. $\frac{yz}{x} = \frac{12\times 3}{6} = 6$; an integer

37. (C) Distance = 400 miles
Let. Speed of car A = x mph
∴ Speed of car B = (x – 10) mph
According to the question,

$$\frac{400}{x-10}-\frac{400}{x}=2$$

$$\Rightarrow \frac{400x-400x+4000}{x(x-10)}=2$$

$$\Rightarrow 4000=2x(x-10)$$

$$\Rightarrow x(x-10)=2000$$

$$\Rightarrow x^2-10x-2000=0$$

$$\Rightarrow x^2-50x+40x-2000=0$$

$$\Rightarrow x(x-50)+40(x-50)=0$$

$$\Rightarrow (x-50)(x+40)=0$$

$\therefore x=50$ [Since speed cannot be negative, $x \neq -40$]
∴ Speed of car B = (50 – 10) mph = 40 mph

38. (E) xy = 27z
awi. সবগুলো রাশিই even, যেমনঃ x = 54, y = 6, এবং z = 12
তাহলে, 54 × 6 = 27 × 12;বা, 324 = 324
এখন, A) x + y + z = 54 + 6 + 12 = 72 = even
B) xyz = 54 × 6 × 12 = 3888 = even
C) x + y + 2z = 54 + 6 + 2 × 12 = 84 = even
D) xy – z = 54 × 6 – 12 = 312 = even

39. (E) Given, x < y and z > 0
Let, x = – 5, y = – 2 and z = 2

I. $\frac{z}{x}<\frac{z}{y} \Rightarrow \frac{2}{-5}<\frac{2}{-2} \Rightarrow -\frac{2}{5}<-1$

But it is never possible.

II. (z – y) < (z – x) ⇒ 2 – (– 2) < 2 – (– 5) ⇒ 4 < 7
It is true.
III. xz<yz ⇒ – 5 × 2 < – 2 × 2 ⇒ – 10 < – 4
It is true.

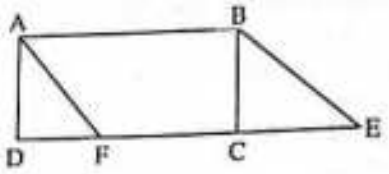
40. (D) n একটি integer যা 4 থেকে বড়।
এখন n এর বিভিন্ন value ধরে option গুলো test করি।
Option A তে n = 7 হলে,
n(n + 1) (n – 2) = 7 × 8 × 5; যা 3 দিয়ে divisible নয়।
Option B তে n = 7 হলে,
n(n2 + 4) = 7 × (72 + 4) = 7 × 53; যা 3 দিয়ে divisible নয়।
Option C তে n = 5 হলে,
4n (n – 1) = 4 × 5 × 4; যা 3 দিয়ে divisible নয়।
Option D সব সময়ই 3 দিয়ে divisible হয়।

41. (D) x একটি positive integer যেমনঃ 1, 2, 3 ইত্যাদি।
x = 1 হলে, 34x+2 = 34+2 = 36
x = 2 হলে, 34x+2 = 38+2 = 310
x = 3 হলে, 34x+2 = 312+2 = 314
এখন,
$3^1 = 3$ [last digit = 3]
$3^2 = 9$ [last digit = 9]
$3^3 = 27$ [last digit = 7]
$3^4 = 81$ [last digit = 1]
$3^5 = 243$..... [Again last digit = 3]
$3^6 = 729$..... [Again last digit = 9]
Power বাড়াতে থাকলে last digit টি এভাবে repeat হতে থাকবে।
যেহেতু 36 এর last digit টি 9, তাই 5 দিয়ে ভাগ করলে 4 remainder থাকবে।

42. (A)

	Doctor	Not Doctor	
Married	50%		
Unmarried	(60 – 50)% = 10%		
	60%	40%	

43. (A)



ABCD rectangle বলে ΔAFD একটি সমকোণী ত্রিভুজ।
BC = 5 বলে AD = 5
AB = 10 বলে DC = 10
আবার, এখানে AF ও BE parallel বলে DF = CE = 5 হবে।
∴ DF = DC – CF = 10 – 5 = 5

$$\therefore \text{Area of } \Delta AFD = \frac{1}{2}\times 5\times 5 = 12.5$$

44. (B) ধরি, 50 টাকা মূল্যের x kg এবং 60 টাকা মূল্যের y kg চাল কিনেছে। তাহলে ratio টি হচ্ছে x: y.
প্রশ্নমতে,

$$(50x+60y)\times\frac{120}{100} = 70\times(x+y)$$

$$\Rightarrow 1.2\times(50x+60y) = 70\times(x+y)$$

$$\Rightarrow 60x+72y = 70x+70y$$

$$\Rightarrow 10x = 2y$$

$$\therefore \frac{x}{y} = \frac{2}{10} = \frac{1}{5} = 1:5$$

45. (D) Let, his income in 2003 = x
∴ His income in 2004 = 1.2x
And his income in 2005 = 1.2 × 1.2x = 1.44x
According to the question,
x + 1.2x + 1.44x = 36400
Or, 3.64x = 36400
∴ x = 10,000
So his income in 2005 = 1.44 × 10,000 = 14,400

46. (A)

$$x = 13y + 3$$

$$\Rightarrow \frac{x-3}{13} = y$$

$$x = 7z + 3$$

$$\frac{x-3}{7} = z$$

সুতরাং x থেকে 3 বিয়োগ করলে তা 13 এবং 7 দ্বারা বিভাজ্য।
∴ x এর একটি value হতে পারে = (13 × 7) + 3 = 94
তাহলে,

$$y = \frac{x-3}{13} = \frac{94-3}{13} = 7$$

$$z = \frac{x-3}{7} = \frac{94-3}{7} = 13$$

$$\therefore \frac{yz}{13} = \frac{7 \times 13}{13} = 7$$

No remainder.

47. (B)

$$\frac{x+y}{2} = 60$$

$$\Rightarrow x + y = 120$$

Again,

$$\frac{y+z}{2} = 80$$

$$\Rightarrow y + z = 160$$

∴ (y + z) – (x + y) = 160 – 120
Or, z – x = 40

48. (A)
@ (p, q) = (p + 1) (q + 1)
∴ @ (c, d) = (c + 1) (d + 1)
Again, @ (c, d) = 3 × 5
∴ (c + 1) (d + 1) = 15
Or, cd + c + d + 1 = 15
Or, 3 + c + d + 1 = 15
Or, c + d = 15 – 3 – 1
∴ c + d = 11

49. (C) 2pq5 কে 25 দিয়ে ভাগ যেতে হলে q এর value অবশ্যই 2 বা 7 হতে হবে। কারণ last digit এ 5 আছে এমন সংখ্যাকে 25 দিয়ে ভাগ যাওয়ার জন্য সংখ্যাটির last দুই digit 25 বা 75 হতে হয়।
এখন, pq দিয়ে গঠিত দুই অংকের সংখ্যাটিকে আবার 13 দিয়ে ভাগ যায়। কিন্তু last digit এ 7 আছে এমন কোন দুই অংকের সংখ্যাকে 13 দিয়ে ভাগ করা যায় না। তাহলে অবশ্যই q = 2.
আবার,last digit এ 2 আছে এমন একমাত্র দুই অংকের সংখ্যা হলো 52, যাকে 13 দিয়ে ভাগ যায়।
∴ pq = 52

50. (A) পুরাতন worker এর সংখ্যা = 500 জন

Women worker এর সংখ্যা = $500\times\frac{12}{100}=60$ জন

নতুন worker এর সংখ্যা হবে = 500 + 80 = 580জন

নতুন women worker এর সংখ্যা হবে = $580\times\frac{20}{100}=116$ জন

অর্থাৎ নতুন 80 জন worker এর মাঝে women হতে হবে (116 – 60) জন = 56 জন

∴ The required percentage = $\frac{56}{80}\times100\%=70\%$

51. (D)Average weight of half the riders = 180 lbs
Average weight of the other half = 215 lbs

∴ Average weight of all the riders = $\frac{180+215}{2}=197.5$ lbs

∴ Greatest number of people who can safely ride = $\frac{2000}{197.5}=10.13=10$

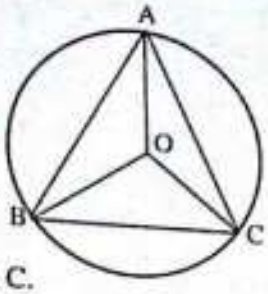
52. (B) Price of 1st pen = Tk. 10, price of 2nd pen = Tk. 5, and price of any additional pen after those = Tk. 3
Let, I bought 'x' pens.
According to the question,
10 + 5 + 3 (x – 2) = 3.60 × x
Or, 15 + 3x – 6 = 3.6x
Or, 3.6x – 3x = 9
Or, 0.6x = 9

∴ $x=\frac{9}{0.6}=15$

53. (C) Doctors = 40%
So not doctors = (100 – 40) % = 60%
Again, 70% non-engineers,
So Engineers = (100 – 70) % = 30%
Engineers are not doctors. So there are 30% engineers who are not doctors.
∴ The percentage of not doctors & non-engineers = 60% – 30% = 30%

∴ The required percentage = $\frac{30\%}{60\%}\times100\%=50\%$

54. (D)



এখন, ত্রিভুজের তিন শীর্ষ A, B, C.
ধরে করি কেন্দ্র O.
O, A; O, B; O, C যোগ করি, তাহলে তিনটি সমদ্বিবাহু ত্রিভুজ পাওয়া যায়, এখানে সমদ্বিবাহু ত্রিভুজটির সমানবাহুদ্বয়ের দৈর্ঘ্য ব্যাসার্ধপরবাহটি $\sqrt{3}$ গুণ,

এখন, $OB = OC = 2 \therefore BC = 2\sqrt{3}$ $\therefore \Delta ABC$ এর ক্ষেত্রফল $= \frac{\sqrt{3}}{4}a^2$

$= \frac{\sqrt{3}}{4}\left(2\sqrt{3}\right)^2 = \frac{\sqrt{3}}{4} \times 4 \times 3 = 3\sqrt{3}$

55. (D)
$33^2 - 17^2 = 25x$
Or. $1089 - 289 = 25x$
Or. $25x = 800$
$\therefore x = 32$

56. (B) Question এ বলা আছে, কমপক্ষে 200 জন footballখেলে।
And 5% of the students at the school who play cricket also play football.
শুধু(I) নং থেকে answer বের করা যাবে না, যেখানে বলা আছে 20 জন দুটিই খেলে।
কিন্তু শুধু (II) নং থেকে answer বের করা যাবে। (II) নং এ বলা আছে, 10 percent of the students at the school who play football also play cricket. তার মানে
5% of those who play cricket = 10% of those who play football.
অর্থাৎ যারা cricket খেলে তাদের সংখ্যা বেশি।

57. (E)শুধু (I) বা শুধু (II) কোনটি থেকেই question এর answer দেওয়া যায় না; কারণ এই question এর answer দেওয়ার জন্য x, y, এবং z তিনটির মান-ই জানতে হবে, যা কোন একটি data থেকে পাওয়া যায় না।
এখন (II)নং থেকে clearly পাওয়া যাচ্ছে যে, $(z - 3) > 0$ বা, $z > 3$
অর্থাৎ z হচ্ছে positive.
এখন (I) থেকে পাই, $(x - 3)(y - 3) > 0$
এখানে, x এবং y দুটিই positive(যেমনঃ $x = 5, y = 5$); অথবা দুটিই negative(যেমনঃ $x = -5, y = -5$); অথবা একটি positive এবং একটি negative(যেমনঃ $x = 1, y = -5$) হতে পারে।
সবগুলো positive হলে $xyz > 0$ হবে। কিন্তু একটিnegative হলে হবে না।
সুতরাংxyz > 0 কিনা এটা কোনভাবেই বলা সম্ভব না।

58. (A) BBA Students: MBA Students: EMBA Students = 5: 4: 3
So sum of the ratios of BBA & MBA = 5 + 4 = 9
From data (I) –
Sum of BBA & MBA students = 18
$\therefore$ Number of BBA students $= \frac{5}{9} \times 18 = 10$
Again BBA: MBA: EMBA = 5: 4: 3
$\therefore$ Number of students, BBA = 10, MBA = 8, EMBA = 6
So data (I) gives the result. But data (II) alone cannot provide the answer.

59. (C) Neither data (I) nor data (II) alone is sufficient to answer the question.
Now let, the price of pen = Tk. x and the price of pencil = Tk. y
From data (I), we get –
$x + y = 80$ or, $y = 80 - x$
Again, from data (II), we get –
$3y - 2x = 20$
Or, $3(80 - x) - 2x = 20$
Or, $240 - 3x - 2x = 20$
Or, $5x = 220$
$\therefore x = 44$
So, $y = 80 - 44 = 36$
Considering both data, only possible equation is, $(5 \times 44) + (5 \times 36) = 400$
So he bought 5 pens.
Note: You don't need to find the answers in data sufficiency questions.

60. (B)শুধু data (I) দিয়ে answer বের করা সম্ভব নয়; সেখানে speed, M = 48 km/hr দেওয়া আছে।
এখন data (II) থেকে পাই, বাসা এবং office এর distance = 40 km

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

Monday তে মোট timeলাগে $= \frac{20}{M} + \frac{20}{1.25M} = \frac{1.25\times20+20}{1.25M} = \frac{25+20}{1.25M} = \frac{45}{1.25M} = \frac{36}{M}$

আবার, Tuesday তে মোট timeলাগে $= \frac{40}{M}$

$\therefore$ Ratio of time taken on Monday and Tuesday $= \frac{\frac{36}{M}}{\frac{40}{M}} = \frac{36}{M}\times\frac{M}{40} = \frac{9}{10} = 9:10$

Section III: Analytical Ability

(Questions 61 to 64)

IBA এর 7 টি office রং করা হবে। অফিসগুলো সামনে থেকে পিছনের দিকে ক্রমান্বয়ে 1 থেকে 7 পর্যন্ত numbering করা আছে। দুইটি করে অফিস white, blue এবং green color এ রং করা হবে। আর একটি office yellow color এ রং করা হবে এবং নিম্নোক্ত condition গুলো মানতে হবে।

1. The two offices painted green must be next to each other. (G = G)
2. The two offices painted blue cannot be next to each other. (B ≠ B)
3. The offices painted yellow cannot be next to an office painted white. (Y ≠ W)
4. Office 3 must be painted white. (Office 3 → W)

61. (A)
1নং অফিস: G
2 নং অফিস: G
3 নং অফিস: W
এখানে Office 2 green color এ রং করা হবে। আবার দুইটি green পাশাপাশি থাকবে। কিন্তু যেহেতু 3 নং officeটি whiteএ রং করা হবে, তাই আরোকটি green color দিয়ে অবশ্যই 1 নং অফিসটি রং করতে হবে।

62. (E) অফিস 4 কে white এ রং করা হবে এবং green color এর একটি অফিস White এর পাশে থাকবে। এখন সবগুলোর condition মেনে নিম্নোক্ত 2 উপায়ে অফিসগুলোকে সাজানো যায়।

1 নং অফিস: y
2 নং অফিস: b
3 নং অফিস: W
4 নং অফিস: W
5 নং অফিস: g
6 নং অফিস: g
7 নং অফিস: b

অথবা,

1 নং অফিস: g
2 নং অফিস: g
3 নং অফিস: W
4 নং অফিস: W
5 নং অফিস: b
6 নং অফিস: y
7 নং অফিস: b

উভয়ক্ষেত্রেই 7 নং অফিসটি blue color এ রং করা।

63. (E) অফিস 5 কে white এ রং করা হবে। আবার, 3নং office টি অবশ্যই white এ রং করা হবে। এরপর condition গুলো মেনে নিচের arrangement টি possible.

1 নং অফিস: G
2 নং অফিস: G
3 নং অফিস: W
4 নং অফিস: B
5 নং অফিস: W
6 নং অফিস: B
7 নং অফিস: Y

64. (D)প্রশ্ন হচ্ছে original condition গুলোর সাথে নিচের কোন condition টি add করা হলে সবগুলো office এর color পুরোপুরি determine করা যাবে। Answer হবে- Office 6 must be painted white. এক্ষেত্রে yellow color দিয়ে অবশ্যই 1নং office টি রং করতে হবে। এবং একইসাথে প্রত্যেকটি office এর color determine হয়ে যাবে।

1 নং অফিস: Y
2 নং অফিস: B
3 নং অফিস: W
4 নং অফিস: G
5 নং অফিস: G
6 নং অফিস: W
7 নং অফিস: B

65. (E) Statement (I) এ বলা হচ্ছে, 1975 থেকে 1985 সাল পর্যন্ত PCB (polychlorinated biphenyls) এর প্রতি মানুষের level of exposure অনেক কমে গিয়েছিল।

Statement (II) এ বলা হচ্ছে, একই সময়ে PCB এর প্রতি মানুষের exposure এর জন্য যেসব রোগ হয়, তা previous level থেকে ভিন্ন হয়ে গিয়েছিল।

এই statement দুটির contradiction resolve হয় যদি এটি বলা যায় যে, মানুষ যে সময়ে PCB এর প্রতি exposed হয়, তার অনেক পরে এসংক্রান্ত রোগ দ্বারা attacked হয় এবং অনেক বেশি সময় ধরে এই রোগ গুলো দ্বারা suffer করতে থাকে। Option E তে তাই বলা আছে।

(Questions 66 to 69)

একজন detective agent চারজন suspect এর গতিবিধি লক্ষ করছেন। সন্দেহভাজনদের একটি building এ প্রবেশ এবং বের হওয়ার নিম্নোক্ত observation পাওয়া যায়।

1.প্রত্যেক দিন প্রত্যেক suspect ঠিক একবার করে buildingএ প্রবেশ করে এবং পরবর্তীতে বের হয়।
2. কোন suspect অন্য আরোকজন suspect এর সাথে কখনও building এ প্রবেশ করে না বা বের হয় না।
3. কোন suspect building এ যেই ক্রমানুসারে প্রবেশ করে (প্রথম, দ্বিতীয় বা চতুর্থ), সেই একই ক্রমানুসারে সে কখনও বের হয় না।
4. Building এ প্রবেশ বা বের হওয়ার ক্ষেত্রে R সবসময়ই S এর আগে থাকে।

66. (A) Building এ প্রবেশের ক্রম হচ্ছে T, Q, R, S. Observation 3 এবং 4 দিয়ে এটি solve করা যায়। তারা যেই ক্রমানুসারে প্রবেশ করে, সেই একই ক্রমানুসারে সে কখনও বের হয় না। এবং Building এ প্রবেশ বা বের হওয়ার ক্ষেত্রে R সবসময়ই S এর আগে থাকে।

POSITION	ENTRY	EXIT
1	T	Q
2	Q	R
3	R	S
4	S	T

67. (C) R second এ প্রবেশ করে এবং T third এ প্রবেশ করে। তাহলে অবশ্যই S fourth এ প্রবেশ করবে এবং Q প্রথমে প্রবেশ করবে।

এখন R কে অবশ্যই প্রথমে leave করতে হবে। কারণ R এর পর S থাকবে। তাই R কখনও last এ leaveকরবেনা। R thirdএ leave করতে পারবে না, কারণ S তাহলে যেই ক্রমানুসারে প্রবেশ করেছে, ঐ ক্রমানুসারেই বের হবে। R second এ প্রবেশ করেছে, তাই second এ ও leave করতে পারবে না।

POSITION	ENTRY	EXIT
1	Q	R
2	R	
3	T	
4	S	

68. (A) Q এবং T second ও third এ প্রবেশ করলে R অবশ্যই প্রথমে এবং S সবার শেষে প্রবেশ করবে।
আবার leave করার সময়ও T এর আগে Q হলে বের হওয়ায় একমাত্র order হবে - Q, R, S, T.

POSITION	ENTRY	EXIT
1	R	Q
2	Q	R
3	T	S
4	S	T

69. (E) কোন একদিন যে দুইজন suspect প্রথমে প্রবেশ করে, আবার সেই দুইজনই বের হয়ে যায়। সেদিন last এ কোন দুইজন suspect প্রবেশ করে, তাই বের করতে হবে। এরকম দুইটি arrangement possible. Last-এ S এবং T অথবা S এবংQ হতে পারে।

POSITION	ENTRY	EXIT
1	Q	R
2	R	Q
3	S	T
4	T	S

POSITION	ENTRY	EXIT
1	T	R
2	R	T
3	S	Q
4	Q	S

(Questions 70 to 75)

7 জন singer (Quamrul, Raju, Susmita, Titas, Umana, Vidita, এবং Wahid) 7 টি ভিন্ন time slot এ গান গাইবে। Time slot গুলোconsecutively 1 থেকে 7পর্যন্ত numbering করা। প্রত্যেক time slot এ ঠিক 1 জন singer নিম্নোক্ত condition মেনে গান গাইবে।

1. Quamrul গান গাইবে Titasএর ঠিক আগে বা ঠিক পরে।
2. Titas অবশ্যই Raju-র আগে গান গাইবে।
3. Susmita অবশ্যই slot 1 অথবা slot 7 এ গান গাইবে।
4. Vidita অবশ্যই slot 4 এ গান গাইবে।

70. (B) Umana time slot 2 তে গান গাইবে। তাহলে নিম্নোক্ত 2 উপায়ে singer দের schedule ঠিক করা যাবে।

Slot 1	Susmita	Susmita
Slot 2	Umana	Umana
Slot 3	Wahid	Wahid
Slot 4	Vidita	Vidita
Slot 5	Quamrul	Titas
Slot 6	Titas	Quamrul
Slot 7	Raju	Raju

71. (A) Wahid time slot 7 এ গান গাইবে। তাহলে Susmita অবশ্যই slot 1 এ গান গাইবে।

Slot 1	Susmita
Slot 2	
Slot 3	
Slot 4	Vidita
Slot 5	
Slot 6	
Slot 7	Wahid

এখন Slot 2 & 3 অথবা slot 5 & 6 এ Quamrul ও Titasগান গাইবে। কারণ তারা দুজন পরপর গান গায়। অন্য দুটি ফাঁকা slot এ Umana ও Raju গান গাইবে। তাহলে Quamrul ও Raju কোন ভাবেই পাশাপাশি গান গাইতে পারছে না।

72. (E) Vidita-র ঠিক অব্যবহিত slot এ Raju গান গাইবে। তাহলে নিম্নোক্ত arrangement অনুযায়ী Wahid slot 6 এ গান গাইতে পারে।

Slot 1	Quamrul
Slot 2	Titas
Slot 3	Raju
Slot 4	Vidita
Slot 5	Umana
Slot 6	Wahid
Slot 7	Susmita

73. (A)প্রথম দুটি condition থেকেই answer বের করা যায়। Quamrul গান গাইবে Titas এর ঠিক আগে বা ঠিক পরে। আবার, Titas অবশ্যই Raju-র আগে গান গাইবে। তার মানে Quamrul-ও অবশ্যই Raju-র আগে গান গাইবে।

74. (C)এখানে Susmita-র আগেRaju গান গাইবে। তার মানে condition 3 অনুযায়ী Susmita slot 7 এ গান গাইবে। আবার, slot 5 ও 6 এ Quamrul ও Titas কে গান গাইতে দেওয়া যাবে না; তাহলে Raju-র জন্য slot থাকবে না। তাই Quamrul ও Titas প্রথম তিনটি slot এ যেকোন দুটিতে গান গাইবে। অর্থাৎ Titas অবশ্যই Vidita-র আগে গান গাইবে।

Slot 1	
Slot 2	
Slot 3	
Slot 4	Vidita
Slot 5	
Slot 6	
Slot 7	Susmita

75. (D) Quamrul এর আগের কোন একটি slot এ Umana গান গাইবে। এক্ষেত্রে Vidita অবশ্যই Raju-র আগে গান গাইবে। কারণUmana কে যদি আমরা first slot এও রাখি, তাহলেও Vidita-র উপরে আর মাত্র দুটি slot ফাঁকা থাকে। এই দুটি slotএ Raju কে রাখা যাবে না, কারণ Raju-র উপরে Quamrul ও Titas উভয়ের গান গাইবে। So Vidita must sing sometime before Raju sings.

Slot 1	Umana
Slot 2	Quamrul
Slot 3	Titas
Slot 4	Vidita
Slot 5	
Slot 6	
Slot 7	

Part II: Writing Abilities

A.

"The Role of Telecommunication in the Economic Development of Bangladesh"

One cannot now deny the inevitability of communication for development in the changing global perspective. With the radical change in the perception of development and increased electronic media in the 90s, the role of communication in development has increased tremendously. The term 'development' now connotes 'human development' or in other words, development of human beings, through creating social and economic opportunities for them and widening human choices to bring changes in their lives. People must be at the center of human development.

The world is rapidly moving toward an economic system based on the continuous and ubiquitous availability of information. Recent advances in telecommunications technology have been an important vehicle in permitting information exchange to develop as a valuable commodity. Countries and sectors equipped with the requisite telecommunications systems have been rapidly moving into post-industrial, information-based economy growth. For the developing world, a modern telecommunications infrastructure is not only essential for domestic economic growth, but a prerequisite for participation in increasingly competitive world markets and for attracting new investments.

Information and communication technology (ICT) is increasingly being recognized as a powerful enabler for economic and social development. ICT can advance economic growth, enhance social inclusion, increase health and education services and improve governance at all levels. The United Nations Millennium Development Goals (MDGs) recognize the potentials of ICT for development and MDG 8 (Target 17) calls "to develop a global partnership for development and, in cooperation with the private sector, make available the benefits of new technologies — especially information and communication technologies." Despite its potential, ICT is by no means a panacea. ICT can also introduce new ways for fraud and corruption to occur, and its inappropriate application can sometimes derail development outcomes. ICT can also deepen existing inequalities and misdirect scarce resources. When thinking about ICT for development, it is thus crucial to foster an enabling, trustworthy, transparent and non-discriminatory environment that promotes the responsible and effective use of ICT for development for the benefit of all.

B. Comment on this famous quotation:

"The word 'impossible' only exists in the dictionary of fools"

Answer: Try yourself

Chapter 7
Real Questions

Executive MBA (IBA)

with solution

Executive MBA (IBA)

Admission Test Question (December-2009) with Solution

Section – I: Multiple Choice Questions (MCQs)

30 Questions — 30 Marks

Instructions: *Answer these MCQs on the Answer sheet given separately. You may use the blank spaces around the MCQs to do your rough works.*

1. Four fifth of a number is 12 more than two third of the number. The number is—
(A) 55 (B) 65 (C) 80 (D) 90 (E) None of these

2. Twenty workers can pack 480 articles in 6 hours. How many articles can be packed by 25 workers in 4 hours?
(A) 256 (B) 576 (C) 900 (D) 400 (E) None of these

3. Torun is 10 years older than Neaz. Five years ago Torun was twice as old as Neaz. How old is Neaz?
(A) 5 years (B) 10 years (C) 12 years (D) 15 years (E) None of these

4. Naeem spent Tk. 2700, which is 15 percent of his monthly salary. What is his monthly salary?
(A) Tk. 8000 (B) Tk. 18000 (C) Tk. 22500 (D) Tk. 16500 (E) None of these

5. A 30% discount reduces the price of a watch by Tk. 90. If the discount was 20%, then the price of the watch will be—
(A) Tk. 180 (B) Tk. 210 (C) Tk. 240 (D) Tk. 270 (E) None of these

6. Last year Joy was 5 feet tall, and this year he is 5 feet 6 inches. What is the increase in his height?
(A) 5% (B) 10% (C) 15% (D) 20% (E) None of these

7. What percent of 15 is 15 percent of 1?
(A) 1% (B) 10% (C) 2.5% (D) 0.25% (E) None of these

8. The number of automobile sold by a company decreased by 15% as the price was increased by 15%. What was the net effect on revenue of the company?
(A) No effect (B) 1.5% increase (C) 2.25% decrease (D) 2.25% increase (E) None of these

9. If $x = 3(2y - x)$, then what is the value of y in terms of x?
(A) 2/3 (B) 3/2 (C) 1/2 (D) 3/4 (E) None of these

10. The ratio of two numbers is 10 and their difference is 18. What is the value of the smaller number?
(A) 2 (B) 5 (C) 10 (D) 21 (E) None of these

11. The average of four numbers is 20. If one of the numbers is removed, the average of the remaining numbers is 15. What number was removed?
(A) 10 (B) 15 (C) 30 (D) 35 (E) None of these

12. If $x = 4y$, what percent of 2x is 2y?
(A) 10% (B) 20% (C) 25% (D) 26% (E) None of these

13. The surface area of a cubic box is 150 cm. What is the volume of that box?
(A) 450 cm^3 (B) 216cm^3 (C) 125cm^3 (D) 150cm^3 (E) None of these

14. A shirt was initially listed at a price that would have given the store a profit of 20 percent of the wholesale cost. After reducing the asking price by 10 percent, the dress sold for a net profit of Tk. 100. What was the wholesale cost of the shirt?
(A) Tk.2500 (B) Tk. 1250 (C) Tk. 1000 (D) Tk. 2000 (E) None of these

Questions: 15 to 19

Instruction: *Read the following paragraphs and select the best answer for each of the questions that follow on the basis of what, is stated or implied in Aie paragraphs.*

Research has shown that air pollutants from fossil fuel use make clouds reflect more of the sun's rays back into space. This leads to an effect known as global dimming whereby less heal and energy reaches the earth. At first, it sounds like an ironic savior to climate change problems. However, it is believed that global dimming caused the droughts in Ethiopia in the 1970s and 80s whore millions died, because the northern hemisphere oceans were not warm enough to allow rain formation. Global dimming is also hiding the true power of global warming. By cleaning up global dimming-causing pollutants without tackling greenhouse gas emissions, rapid warming has been observed, and various human health and ecological disasters have resulted, as witnessed during the European heat wave in 2003, which saw thousands of people die.

15. What could be the appropriate title of the passage?
(A) The Phenomena of Global Dimming
(B) Global Warming
(C) Problems of Climate Change
(D) Global Dimming and Greenhouse Gas
(E) Fossil Fuel is the Monster

16. Which of the following statements is correct?
(A) Global dimming is just the opposite of global warming.
(B) The pollutants responsible for global dimming are different from those responsible for global warming.
(C) Global dimming is undermining the effect of global warming.
(D) The ozone layer is also a contributor to the dimming effect.
(E) Global dimming is the savior to climate change

17. What does the word 'hiding' in the sixth line mean?
(A) Global dimming reduces the power of global warming.
(B) Global dimming defocuses the issue of global warming.
(C) Global dimming demeans the true power of global warming.
(D) Global dimming despises the issue of global warming.
(E) Global dimming is not an issue of global warming.

18. The main impact of global dimming is
(A) acting as a savior to climate change.
(B) causing the draughts in Ethiopia.
(C) the cooling effect of reflecting radiation.
(D) in underestimating the actual brunt of global warming.
(E) none of these.

19. Which one is not an effect of fossil fuel use?
(A) Refection of Sun rays back into the space.
(B) Global dimming.
(C) Global warming.
(D) Greenhouse gas emission.
(E) Savior of climate change.

Questions: 20 to 24:

Instruction: *Read the following paragraphs and select the best answer for each of the questions that follow on the basis of what is stated or implied in Aie in paragraphs.*

A serious critic has to comprehend the particular content, unique structure, and special meaning of a work of art. And here she faces a dilemma. The critic must recognize the artistic element of uniqueness that requires subjective reaction: yet she must not be unduly prejudiced by such reactions. Her likes and dislikes are less important than what the work itself communicates, and her preferences may blind her to certain qualities of the work and thereby prevent an adequate understanding of it. Hence, it is necessary that a critic, develop a sensibility informed by familiarity with the history of art and aesthetic theory. On the other hand, it is insufficient to treat the artwork solely

historically, in relation to a fixed set of ideas or values. The critic's knowledge and training are, rather, a preparation of the cognitive and emotional abilities needed for an adequate personal response to an artwork's own particular qualities.

20. The author's argument is developed primarily by the use of
(A) an attack on sentimentality.
(B) an example of successful art criticism.
(C) a warning against extremes in art criticism.
(D) an analogy between art criticism and art production.
(E) None of these.

21. According to the author, a serious art critic may avoid being prejudiced by her subjective reactions if she
(A) treats an artwork in relation to a fixed set of ideas and values.
(B) brings to her observation a knowledge of art history and aesthetic theory.
(C) allows more time for the observation of each artwork.
(D) takes into account the preferences of other art critics.
(E) limits herself to that art with which she has adequate familiarity.

22. The paragraph suggests that the author would most likely to agree with which of the following statements?
(A) Art speaks to the passions as well as to the intellect.
(B) Most works of art express unconscious wishes or desires.
(C) The best art is accessible to the greatest number of people.
(D) The art produced in the last few decades is of inferior quality.
(E) The meaning of art is a function of the social conditions in which it was produced.

23. The author implies that it is insufficient to treat a work of art solely historically because
(A) doing so would lead the critic into a dilemma.
(B) doing so can blind the critic to some of the artwork's unique qualities.
(C) doing so can insulate the critic from personally held beliefs.
(D) subjective reactions can produce a biased response.
(E) critics are not sufficiently familiar with art history.

24. Which one is not a factor in understanding a particular art work for criticism?
(A) The content. (B) The uniqueness. (C) The special meaning.
(D) The history of art. (E) The critic's preferences.

Questions: 25 to 27

Instruction: *Read the following paragraphs and select the best answer for each of the questions that follow on the basis of what is stated or implied in the paragraphs.*

The relative hardness of five minerals - N, O, R, S, and T - is to be determined. One mineral is harder than another if drawing an edge of the first mineral across a surface of the second mineral produces a scratch; otherwise, the first mineral is either equally hard or not as hard the second. The following results have so far been obtained.

N scratches O.
R scratches S.
O does not scratch T.

25. Which of the following could be the five minerals in order from the hardest to the softest if no two of them are equally hard?
(A) N, T, S, O, R (B) N, R, T, S, O (C) R, N, O, S, T
(D) R, O, S, T, N (E) T, N, S, R, O

26. If O scratches S, which of the following must be true?
(A) N is harder than R (B) N is harder than T (C) T is harder than S
(D) R is harder than N (E) R is harder than T

27. If S scratches T, any of the following pairs of minerals could be the same hardness as each other EXCEPT
(A) N and R (B) N and S (C) N and T (D) O and T (E) R and T

28. Jamil: Because he is a superb athlete, Babu is qualified for admission to the Hall of Fame.
Sayed: But because Babu has used illegal drugs, he is a poor role model for young people. Therefore, Babu should not be admitted to the Hall of Fame.

Sayed's conclusion depends on which of the following assumptions?
(A) Superb athletes usually do not use illegal drugs.
(B) Babu is interested in being admitted to the Hall of Fame.
(C) Babu's use of illegal drugs had a negative effect on his athletic performance.
(D) Being an adequate role model for young people should be one of the criteria for admission to the Hall of Fame.
(E) All athletes who do not use drugs are qualified for admission to the Hall of Fame.

29. One theory of the Moon's origin is that the Earth, early in its development, was a rapidly rotating body of molten rock in which most of the iron had settled to the core; some of this fluid was cast off from the surface of the spinning mass and later solidified to form the Moon.

Which of the following conclusions can best be supported by the theory above of the Moon's origin, if that theory is correct?
(A) The Moon has proportionally less iron at its core than the Earth.
(B) The Moon is the only sizable heavenly body.
(C) The surface of the Moon solidified after the surface of the Earth did.
(D) Most of the fluid cast off from the Earth was dispersed into outer space.
(E) The Moon, like the Earth, has a solid surface and a molten core.

30. Experienced pilots often have more trouble than novice pilots in learning to fly the newly developed ultra-light airplanes. Being accustomed to heavier aircraft, experienced pilots, when flying ultra-light craft, seem not to respect the wind as much as they should.

The passage implies that the heavier aircraft mentioned above are
(A) harder to land than ultra-light aircraft.
(B) not as popular with pilots as ultra-light aircraft.
(C) not as safe as ultra-light aircraft.
(D) easier to handle in wind than ultra-light aircraft.
(E) more fuel efficient than ultra-light aircraft.

End of Part I

PART I I: Written Test **[20 Marks]**

A. Assume your current organization requires that you take their permission before pursuing an EMBA Program. The EMBA Program is a very demanding one and your supervisor knows if you enroll in this program you will not be able to give adequate time to your job. Write a letter using a structured letter writing format to your supervisor convincing him/her to allow you to pursue the program. [20]
[Use the space provided in the next page to answer this question]

ANSWER KEY

Section: 1 MCQ

1.D	2.D	3.D	4.B	5.C	6.B	7.A	8.C	9.E	10.A
11.D	12.C	13.C	14.B	15.A	16.B	17.B	18.B	19.E	20.D
21.B	22.A	23.B	24.E	25.B	26.C	27.E	28.D	29.A	30.D

Executive MBA (IBA) Admission Test 2009 (December) Solution

Section – I: Mathematics

1. (D) ধরে নিই, number টি $= x$

$$\text{অথবা, } \frac{4}{5}\times x = \frac{2}{3}\times x + 12$$

$$\text{Or, } \frac{4}{5}x - \frac{2}{3}x = 12$$

$$\text{Or, } x = \frac{12\times 15}{2}$$

$$= 90$$

∴ Answer: D

2. (D) 20 workers 6 hours ধরে pack করতে পারে 480 articles

1 " " " " " $\frac{480}{20}$ "

25 " " " " " $\frac{480}{20}\times 25$ "

" " 1 " " " $\frac{480\times 25}{20\times 6}$ "

" " 4 " " " $\frac{480\times 25\times 4}{20\times 6}$ " $= 400$ articles

∴ Answer: D

3. (D) Neaz = N, Torun = N + 10

5 years আগে Torun = N+5

Neaz = N−5

∴ (N+5) = 2 (N−5)

$\Rightarrow$ N + 5 = 2n − 10

$\Rightarrow$ N = 15

∴ Answer: D

4. (B) Monthly salary যদি ১০০ % হয়,

$$15\% \longrightarrow 2700$$

$$100\% \longrightarrow \frac{2700}{15\%}\times 100\% = 18000tk$$

} unitary method বা ঐকিক নিয়ম।

∴ Answer: B

5. (C) 30% discount দিলে price 90 tk কমে যায়।

$$30\% \longrightarrow 90$$

$$100\% \longrightarrow \frac{90}{30\%}\times 100\% = 300tk$$

} unitary method

20% discount মানে 20% of 300

$$= \frac{20}{100}\times 300 = 60tk$$

অর্থাৎ discount এর পরে দাম হবে 300–60=240 টাকা.

∴ Answer: C

6. (B) Last year থেকে joy 6 inches অথবা $\frac{1}{2}$ feet লম্বা হয়েছে।

$$\therefore \text{parentage increase} = \frac{increase}{original}\times 100$$

$$= \frac{\frac{1}{2}}{5}\times 100$$

$$= 10\%$$

∴ Answer: B

7. (A) 15 percent of 1

$$= \frac{15}{100}\times 1 = 0.15$$

প্রশ্নমতে চেয়েছে 0.15, 15 এর কত শতাংশ?

অতএব, $\frac{0.15}{15}\times 100 = 1\%$

∴ Answer: A

8. (C) ধরে নিলাম, former price per car = 100,

former units sold = 100

	price	units	revenue
	100	100	10000
former			
now	115 (+15%)	85 (−15%)	9775
			change = −225

$$\therefore \text{Percentage change} = \frac{change}{original}\times 100$$

$$= \frac{-225}{10000}\times 100$$

$$= -2.25\%$$

∴ Answer: C

9. (E)

$\Rightarrow x = 3(2y - x)$

$\Rightarrow x = 6y - 3x$

$\Rightarrow 6y = x + 3x$

$\Rightarrow y = \frac{4x}{6} = \frac{2x}{3}$

$\therefore y = \frac{2}{3}x$

যেহেতু বলে দিয়েছে in terms of x answer এ x থাকতে হবে।

$\therefore$ Answer: E

10.(A) ধরে নিলাম বড় number = x, ছোট number = y

ratio 10 মানে $\frac{x}{y} = 10$.....(1)

difference 18 মানে $x - y = 18$.....(2)

1 থেকে

x = 10y

x এর মান (2) তে বসালে

10y−y=18

$\Rightarrow$ y=2

$\therefore$ Answer: A

11.(D) 4 টা number গড়ে 20 করে অর্থাৎ, 4টা মিলে 4×20=80

3 টা " " 15 " " 3 টা " 3×15=45

একটা number কমার জন্য 35 কমে গেল, অথাৎ যেটা কমেছে ওই সংখ্যার মান 35।

$\therefore$ Answer: D

12.(C) x = 4y

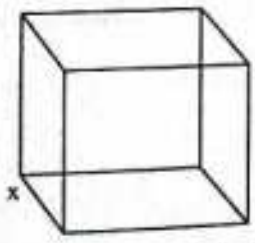
ধরে নিলাম, y=10, অথাৎ x = 40

2x = 80, 2y = 20, চেয়েছে '2y' 2x এর কত শতাংশে।

অতএব $\frac{2y}{2x} \times 100 = \frac{20}{80} \times 100 = 25\%$

$\therefore$ Answer: C

13.(C)



ধরে নিলাম, cube এর এক একটি side = x.

ছয়টি " " $= 6 \times x^2$

বলা আছে, $6x^2 = 150$

$\therefore x^2 = \frac{150}{6}$

$\Rightarrow x = 5$

volume of box = $x \times x \times x$

$= 5 \times 5 \times 5 = 125cm^3$

∴ Answer: C

14.(B) ধরে নিলাম, wholesale cost = 100%

initially 20% লাভ রাখলে asking price = 100% + 20%

= 120%

asking price থেকে 10% কমালে

120% – (10% of 120)

= 120 – 12

= 108%

অর্থাৎ 8% লাভ হচ্ছে, 8% লাভ মানে cost price 100 টাকা

অতএব, wholesale price, 100%

8 % ⟶ 100

$100\% \longrightarrow \frac{100}{4\%} \times 100\%$

= 1250 tk

∴ Answer: B

English

15.A whole passage এই global dimming নিয়ে বলা আছে।

16.B At first, it sounds..... to climate change problems এই লাইন পড়লেই বোঝা যায় global warming and global dimming different কারণে হয়।

17.B

18.B 4 no line and the last line global dimming এর impact এর কথা বলা হয়েছে।

19.E সবগুলোই Fossil fuel এর effect, option E ব্যতীত।

20.D

21.B Hence, it is necessary..... of art and aesthetic theory- এই লাইন থেকেই বুঝা যায় option B-ই correct answer.

22.A

23.B on the other hand ..... to an artwork's own personal qualities – 'own personal qualities' এই অংশ থেকেই বোঝা যায় option B correct.

24.E E ব্যতীত সবগুলোই factors in understanding a particular art work for criticism.

Analytical Ability 25 - 27

25. (B) Information থেকে যে key findings গুলো পাই তা হল:

N ⟶ O (N scratch করে O কে)

R ⟶ S (R scratch করে S কে)

O ⟶/ T (O scratch করে না T কে)

সব conditions ধরে check করলে Answer: B

26. (C) যেহেতু T কে O scratch করতে পারে না, T হয় O থেকে hard অথবা equally strong. O যদি S কে scratch করতে পারে, তার মানে S হচ্ছে O এর থেকে weak এবং T এর থেকেও weak. সুতরাং T is harder than S.

27. (E) যেহেতু R scratch করে S কে আর S scratch করে T কে, R is stronger than T. সুতরাং Rএবং T same হতে পারে না।

∴ Answer: E

28. (D) যেহেতু Sayed বলছে যে Babu poor role model & therefore hall of fame এ admit করা উচিত না, Sayed ধরে নিয়েছে যে hall of fame এ যেতে হলে adequate role model হতে হয়।

∴ Answer: D

29. (A) যেহেতু বলা আছে যে বেশির ভাগ iron core এ settle হওয়ার সময় একটু molten rock fluid বের হয়ে গেছে, এটি অবশ্যই বলা যায় যে moon এর core এ Earth থেকে কম iron আছে।

∴ Answer: A

30. (D) যেহেতু বলা আছে যে wind এর জন্য experienced pilots দের অসুবিধা হয়, directly বলা যায় Answer: D.

Executive MBA (IBA)

Admission Test Question (April-2010) with Solution

Total Time: 75 Min **Total Marks: 75**

[For each MCQ, 25% of the assigned marks will be deducted for a wrong answer. Each unanswered question will earn zero marks]

PART T: Multiple Choice Questions (MCQs) (30 x 1 = 30 marks)

Instructions: Answer these MCQs on the Answer Sheet given separately. You may use the blank spaces around the MCQs to do your rough works.

1. If $x + y > 4$ and $x < 3$, then $y > 1$ is true
   A. always B. only if $x < 0$ C. only if $x > 0$
   D. only if $x = 0$ E. never

2. If $(p + 4)^2 = 121$, which of these could be the value of $(p-4)$?
   A. 7 B. –7 C. 3 D. –3 E. none of these

3. The arithmetic mean of $(3x - 8)$ and another number is $5x$. What is the arithmetic mean of the other number and $3x$?
   A. $5x - 4$ B. $5x + 4$ C. $4x + 5$ D. $4x - 5$ E. none of these

4. The length of a rectangle is 9 feet more than its breadth. Given that its perimeter is 66 feet, what is the breadth of the rectangle in feet?
   A. 8 B. 12 C. 15 D. 24 E. none of these

5. If m and n are negative integers, which of the following must be true?
   i. $mn < 0$ ii. $m + n < 0$ iii. $m - n < 0$
   A. Only I B. only II C. only II D. I and II E. none of these

6. If integers x and y are such that $3x + 4y = 25$ and $x^2 + y^2 = 25$, then the value of y =
   A. 4 B. –3 C. –4 D. 3 E. none of these

7. A car travels at the rate of y kilometers per hour. How many minutes will it take the car to travel a distance of x kilometers?
   A. x/y B. y/x C. 60x/y D. 60 y/x E. y/60x

8. The average (arithmetic mean) of 8 numbers is 7.50. When two more numbers are added to the 8 numbers, the new average of all the 10 numbers is 8.80. What is the average of the two numbers added?
   A. 1.3 B. 2.6 C. 3.3 D. 14 E. 28

9. If m is an even integer, which of these must be an odd integer?
   A. m + 2 B. m + 4 C. 2m–1 D. 2m–2 E. 3m

10. If $n > 0$, which of the following must be true?
    I. $n^2 > 1$ II. $n - n^2 < 0$ III. $2n - 1 > 0$
    A. I B. II C. III D. I and II E. none

Questions 11 to 16

Instruction: Read the following paragraphs and select the best answer for each of the questions that follow on the basis of what is stated or implied in the paragraphs.

A student has been assigned to perform five tasks-A, B, C, D, & E. The tasks are to be done in a particular order, which conforms to the following conditions:
A must be done earlier than C. B must be done earlier than D. E cannot be the fifth task done.

11. Which among the following is an acceptable order for performing the tasks?
A. A, B, C, D, E B. A, C, D, E C. B, D, C, A, E
D. B, D, E, A, C E. E, B, C, A, D

12. Which among the following is a pair of tasks that CANNOT both be done earlier than E?
A. A and B B. A and C. B Lind C
D. B and D E. C and D

13. In case B, D and E are to be done one after the other in the given order, the two positions from first to fifth in which A could possibly be done are
A. first and second. B. first and fourth. C. second and third.
D. third and fifth. E. fourth and fifth.

14. In case C is done earlier than E, which among the following will be true?
A. D is the fifth task done. B. C is the third task done. C. B is the second task done.
D. A is the first task done. E. E is the fourth task done.

15. In case D and E are done as far apart from each other as possible, which among the following would be true?
A. A is done earlier than B. B. B is done earlier than C. C. C is done earlier than E.
D. D is done earlier than A. E. E is done earlier than B.

16. In case exactly one task is done between A and C, and exactly one task is done between B and D, which among the following will be true?
A. B is the task done between A and C. B. C is the task done between B and D.
C. E is the task done between A and C. D. D is the last task done.
E. E is the first task done.

Instruction: *Four parts of each sentence below ore underlined and lettered. Identify if there is an error in any part; If there is no error then select option E.*

17. We have no choice <u>but</u> (A) to appoint Maruf: he is the <u>best</u> (B) of the two candidates, and there <u>is</u> (C) no prospect of finding <u>more</u> (D) applicants. <u>No error</u>. (E)

18. Either of the solutions you <u>have</u> (A) proposed <u>are</u> (B) acceptable to the union, <u>whose</u> (C) members <u>are willing</u> (B) to compromise. <u>No error</u> (E)

19. The reason I <u>will</u> (A) not be <u>going</u> (B) to USA this year is <u>because</u> (C) I will use up all my travel money <u>attending</u> (D) an important meeting in Singapore. <u>No Error</u> (E)

20. Employees with <u>less</u> (A) personal problems <u>are</u> (B) <u>likely</u> (C) to be <u>more</u> (D) productive. <u>No Error</u>. (E)

Instruction: Fill in the blanks with appropriate word/words.

21. I saw him walking _____ the direction of the station.
A. by B. on C. to D. at E. in

22. Was the man _____ you think you saw leaving the building wearing a guard's niform?
A. who B. whom C. that D. which E. as

23. He is not sure _____ he should buy the new computer now or wait until he receives his next bonus.
A. if B. whether C. that D. for E. of

24. You certainly wouldn't like _____ in such bad company.
A. to have seen B. to see C. to be seeing
D. to be seen E. to saw

Instruction: *Read the following paragraphs and select the best answer for each of the questions that follow on the basis of what is stated or implied in the paragraphs.*

Every aspiring executive knows that the rules of career advancement have changed: lifetime careers inside a single company have become virtually impossible. Career ladders can crumble instantly after an organizational cost-cutting initiative or restructuring. So how do you map out your career track amid these seismic shifts in the business landscape? First understand current trends in executive career paths. Then determine these trends' ramifications for your own professional development. For instance, recent studies show that. different types of firms offer different prospects for advancement Large, long-established corporations provide extensive training and development along with job stability - so consider starting and ending your career in that type of firm. Young, growing firms offer faster advancement but less stability - so decide whether the promotional opportunities outweigh the risks. By analyzing such developments, you make smarter choices about which industry, company type, and functional area will most likely propel you to the top. You also know when to sit tight and wait for a promotion - and when to move on to a more promising organization. Your reward? A lifetime of satisfying, stimulating work.

25. The main theme of the paragraph is:
A. The means of rewarding oneself within a work environment.
B. The ramifications of job stability for an executive's career plans.
C. The initiatives taken by various types of organizations with regard to its executive career plans.
D. The strategies of charting one's career in today's world.
E. None of the above.

26. Which of the following statements, if true, weakens the initial premise of the paragraph?
A. Most companies go through cost-cutting phases, but not all companies necessarily restructure.
B. Lifetime employment has not been common for quite some time now and employees had adjusted to the change a long time back.
C. Career advancement rules change over time, although not very frequently.
D. Stimulating work may not be the only reward for an executive.
E. None of the above.

27. Which of the following statements, if true, strengthens the distinction made between jobs in long-established and in growing firms?
A. Long-established firms have fewer hiring, as well as firings
B. Jobs in growing firms are unstable because of the changing nature of the work and the competitive environment, whereas jobs in established firms are unstable due to the cost- cutting measures.

C. Some established firms have fast advancement opportunities while some young firms provide extensive training.
D. Both A & B
E. None of the above.

28. Which of the following has not been identified as a step in charting out one's career in today's organizations?
A. Study the existing patterns in career development
B. Identify the proper time to switch to a job with greater promotional prospects.
C. Calculate the gains of switching jobs compared to the risks involved.
D. Choose greater stability of job and try to avoid the risk inherent in faster advancement.
E. None of the above.

29. The phrase "will most likely propel you to the top" presupposes which of the following?
A. An individual's prime career objective is job security.
B. The career path to the top is difficult and involves not only smart job choices but also loyalty to the firm.
C. Choosing the right jobs that offer growth opportunities would lead to career development where individual performance is assumed as given.
D. Performance at jobs takes individuals to the top, not their motivation to grow.
E. None of the above.

30. Which of the following statements, if true, most weakens the concluding line?
A. Some individuals have progressed fast through their professional life but have not enjoyed the nature of work along the way.
B. Job choices that accelerate one's career are the ones that have been perceived as satisfying by employees.
C. Job choices that have been perceived as satisfying by employees are the ones through which their careers have accelerated.
D. Lifetime of satisfying, stimulating work is not merely rewarding; it is also motivating.
E. None of the above

PART II: Writing Test **[45 marks]**

A. Write a letter to your CEO as a manager-in charge justifying the training needs of the employees under you.

B. "Use of solar energy could abate the current energy crisis in Bangladesh. Therefore, the government should subsidize the production of solar energy"

Discuss the extent to which you agree or disagree with the foregoing statement. Support your position with reasons and/or example from your experience, observation and/or reading.

ANSWER KEY

PART: I Multiple Choice Questions

1. A	2. C	3. B	4. B	5. B	6. A	7. C	8. D	9. C	10. E
11. D	12. E	13. B	14. A	15. E	16. E	17. B	18. B	19. C	20. A
21. E	22. B	23. B	24. D	25. D	26. A	27. E	28. D	29. C	30. A

Executive MBA (IBA) Admission Test 2010 (April) Solution

Section – I: Mathematics

1. (A) যদি $x + y > 4$ হয় এবং $x < 3$ হয়, y এর মান অবশ্যই 1 এর থেকে বেশি হতে হবে, না হলে $x + y > 4$ হবেনা।
∴ Answer: A

2. (C) $(P+4)^2 = 121$
$\Rightarrow P + 4 = \pm 11$
∴ $P + 4 = 11$ or $P + 4 = -11$
$\Rightarrow P = 7$ or, $P = -15$
অতএব, $P-4 = 7-4$ অথবা $-15-4$
$= 3$ $= -19$
Answer option এ -19 নেই,
∴ Answer: C

3. (B) ধরে নিলাম, আরেকটি number = y
$3x - 8$ এবং y এর average $= 5x$
$$\therefore \frac{3x-8+y}{2} = 5x$$
$\Rightarrow 3x - 10x = 8-y$
$\Rightarrow y = 8 + 7x.$
অতএব, y এবং $3x$ এর average $= \frac{y+3x}{2}$
$$\Rightarrow \frac{(8+7x)+3x}{2}$$
$= 4 + 5x$
∴ Answer: B

4. (B) ধরে নিলাম, দৈর্ঘ্য = x
প্রস্থ = y
length যদি breadth থেকে 9 বেশি হয়, তার মানে $x = y + 9$,
Perimeter $= 2(x + y) = 66$
$\Rightarrow 2x + 2y = 66$
$\Rightarrow 2(y + 9) + 2y = 66$
$\Rightarrow 4y = 48$
$\Rightarrow y = 12$
∴ Answer: B

5. (B) Statement i) ভুল, কারণ দুটি negative integer এর product কখনও negative হবে না। statement ii) সঠিক, কারণ দুটি negative integer এর যোগফল negative হয়। statement iii) সব সময় সঠিক নাও হতে পারে। কারণ দুটি number এর difference positive হবে নাকি negative হবে সেটা নির্ভর করে বড় থেকে ছোট বাদ দেওয়া হচ্ছে নাকি ছোট থেকে বড় বাদ দেওয়া হচ্ছে সেটার উপর।

যেহেতু m এবং n এর মান জানা নেই, statement iii) must be true বলা যায় না।

∴ Answer: B

6. (A) $3x + 4y = 25$

$x^2 + y^2 = 25$

first equation থেকে 3 কে replace করে x আর 4 কে replace করে y বসালেই second equation আসে। অর্থাৎ $x = 3$ আর $y = 4$.

∴ Answer: A

7. (C) 1 hour লাগে y km travel করতে, জানতে চেয়েছে x km travel করতে কতক্ষণ লাগে।

$$y \longrightarrow 1 \text{ hour}$$
$$1 \longrightarrow = \frac{1}{y} \text{ hour} \quad \Big\} \text{ unitary method}$$
$$x \longrightarrow = \frac{x}{y} \text{ hour}$$

যেহেতু minutes এ answer চেয়েছে, $\frac{x}{y}$ hour $= \frac{x}{y} \times 60$ min.

$$= \frac{60x}{y} \text{min}$$

∴ Answer: C

8. (D) 8 numbers গড়ে এক একটি 7.5 করে। অর্থাৎ সর্বমোট

value $= 8 \times 7.5 = 60$

10 numbers গড়ে এক একটি 8.8 করে। অর্থাৎ, সর্বমোট

value $= 10 \times 8.8 = 88$

দুটি number extra add করার জন্য (88-60) = 28 add হল। অর্থাৎ দুটি সংখ্যা মোট value = 28, গড়ে এক একটি $\frac{28}{2} = 14$ করে।

∴ Answer: D

9. (C) Trial & error method এ, option C তে গেলে answer correct হয়। 2m−1 করলে প্রথমে m কে 2 দিয়ে গুণ করে 1 বিয়োগ করা হচ্ছে। যেহেতু 2 এবং m দুটিই even, ওদের গুণফল ও even হবে। 1 বিয়োগ করে দিলে আবার number টি odd হয়ে যাবে।

10. (E) Statement 1 true নয়। যদি n এর value একটি fraction হয়, eg. $n=\frac{1}{2}$, $n^2 = \frac{1}{4}$ হয় যা greater than 1 না।

statement ii ও true না, eg. $n = \frac{1}{2}$ হলে $n-n^2 = \frac{1}{2} - \frac{1}{4} = \frac{1}{4}$, এটি less than 0 হয় না, statement iii ও true নয়, $n = \frac{1}{2}$ ধরলে $2(\frac{1}{2}) - 1 = 0$ হয়, greater than 0 না।

∴ Answer: E

ANALYTICAL ABILITY

11-16

11. (D) Information থেকে আমরা যে key findings গুলো পাই তা হল:
A < C (A কে C এর আগে করতে হবে)
B < D (B কে D এর আগে করতে হবে)
E ≠ 5th (E fifth task হতে পারবে না)
Conditions দিয়ে check করলে
∴ Answer: D

12. (E) যেহেতু 5 টা task আছে, E এর আগে 4ta task করা যাবেনা, কারণ সেই ক্ষেত্রে E fifth task হয়ে যাবে।
যেহেতু A এবং B দুটোকে C এবং D এর আগে থাকতে হবে, C এবং D কখনও E এর আগে থাকতে পারবেনা, কারণ তখন A এবং B কেও E এর আগে থাকতে হবে আর E fifth task হয়ে যাবে।
∴ Answer: E

13. (B) B, D এবং E পরপর করলে ওদের positions দু'টি হতে পারে:
1, 2, 3 অথবা 2, 3, 4 কারণ এর পরে দিলে E fifth task হয়ে যায়। প্রথম ক্ষেত্রে, A কে C এর আগে দিতে গেলে fourth এ থাকতে হবে। এবং দ্বিতীয় ক্ষেত্রে A কে C এর আগে দিতে গেলে first এ থাকতে হবে। সুতরাং, A first অথবা fourth এ থাকতে হবে।
∴ Answer: B

14. (A) যেহেতু C এর আগে A কে থাকতে হবে, E এর earliest position হচ্ছে third তা ছাড়া forth এ ও দেওয়া যায়, সে ক্ষেত্রে A এবং C ছাড়া E এর আগে আরও একটা task করা যাবে। প্রথম ক্ষেত্রে, positions from 1-5 হবে: A,C,E,B,D। দ্বিতীয় ক্ষেত্রে positions হবে B,A,C,E,D। দুটি ক্ষেত্রেই D fifth এ করতে হচ্ছে।
∴ Answer: A

15. (E) E কে যেহেতু fifth এ দেওয়া যাবেনা, D থেকে maximum distance এ রাখতে first-এ দিয়ে try করা যায়, সেই ক্ষেত্রে D সবচেয়ে দূরে fifth এ থাকলে মাঝখানে থাকে A,C,B বা B,A,C respectively। এটি ছাড়া E এবং D এর মধ্যে maximum দূরত্ব আর কোন option- এ হয় না।
∴ Answer: E

16. (E) A আর C এবং B আর D এই দু'টির মধ্যে মাত্র একটি task থাকলে তাদের কে পাশাপাশি থাকতে হবে, কারণ মাঝখানে কোথাও E চলে আসলে difference change হয়ে যাবে, যেহেতু E fifth এ থাকবেনা, ABCD অথবা BADC পাশাপাশি সাজালে E কে first এ থাকতে হয়।
∴ Answer: E

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17.B দুইজনের মধ্যে compare করার সময় comparative form of degree use করতে হয়। এ জন্য best এর পরিবর্তে better হবে।

18.B Either of the solutions মানে যে কোন একটা solution which is singular, তাই are এর পরিবর্তে is হবে।

19.C the reason আর because কখনও একসাথে একই sentence এ বসে না।

20.A problems হচ্ছে count noun আর count noun এর পূর্বে few বসে। non count noun এর পূর্বে less বসতে পারে।

21.E

22.B এই Sentence টির অর্থ হচ্ছে তুমি যাকে চলে যেতে দেখেছো বলে মনে করছ, সে কি guard এর uniform পড়ে ছিল ?

23.B

24.D এখানে passive voice বুঝাচ্ছে।

25.D so how do you..... in the business landscape ? এই লাইনের পর থেকেই বিভিন্ন strategy নিয়ে বলা হচ্ছে।

26.A 2nd sentence এ বলা আছে, 'Career ladders can .....initiative or restructuring.' Option A তে কিছুটা contrasting information আছে, ফলে passage এর initial premise weaken হয়ে যায়।

27. E

28. D অন্য সব গুলো option passage এ থাকলেও option D passage এ নেই।

29. C

30. A Last line এ বলা আছে, 'Your reward? A lifetime of satisfying, stimulating work' which contradicts option A. তাই statement টি weaken করে conclusion কে।

Executive MBA (IBA)

Admission Test Question (August-2010) with Solution

PART: 1 Multiple Choice Questions (MCQs) [30 x 1 = 30 marks]

Instructions: Answer these MCQs on the Answer Sheet given separately. You may use the blank spaces around the MCQs to do your rough works.

1. A box contains 90 pencils each weighing 100 gms and 100 pens each weighing 150 gms. If the entire box with the contents weighs 35.5 kgs, then the weight of the empty box is:
A. 10 kg B. 10.5 kg C. 11 kg D. 11.5 kg E. none these

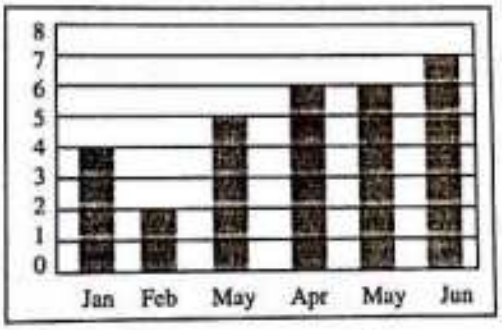
2. When n is divided by 8, the remainder is 5. Which of the following is NOT an even number?
A. n+3 B. n–3 C. 3n+1 D. 5n+2 E. none of these

3. If $x = 5z$ and $15z = 6y$, then x =?
A. y B. 2y C. 5y D. 10y E. none of these

4. If $2x + 6x + 8x + 4x = 120$, the $5x + 3$ =?
A. 13 B. 23 C. 33 D. 48 E. none of these

5. A machine requires M minutes to produce P number of parts. How many hours will it take to produce 5P parts?
A. 5M B. M/12 C. $M^2/5$ D. PM/12 E. none of these

6. The sales figure of a company for the period Jan to June 2010 is shown below.
What is the average monthly sale for the period Jan to June 2010?
A. 4 B. 4.5 C. 5 D. 5.5 E. 6



7. If x, y and z are consecutive non-zero integers, and if $x < y < z$, which of the following must be a positive odd integer?
A. x–z B. x + y + 1 C. x + y + 2 D. xz –y E. none of these

8. If 3/x = 6 and 3/y = 15 then x – y = ?
A. 3/10 B. 2/5 C. 1/3 D. 5/6 E. none of these

9. The sales price of a car is Tk. 12,50,000, which is 20% discounted from the original price.
What is the original price in taka?
A. 14,25,000 B. 14,62,000 C. 15,25,000 D. 15,62,500 E. none of these

10. If x, and y are consecutive negative integers, and if x > y, which of the following must be negative?
A. x/y B. x–y C. y–x D. y/x E. none of these

Questions 1 -12

Instruction: *Read the following paragraph and select the best answer for each of the questions that follow on the basis of what is stated or implied in the paragraph.*

A gardener is planning to plant seven trees - F, G, H, J, R, S, and U on two lawns of IBA. Three are to be planted on the south lawn and four on the north lawn. Four of the trees - F, G, H, and J - are medicinal and three - R, S, and U-are forests. The gardener will satisfy the following requirements in planning the plantation:

Each lawn will have at most two forest trees planted on it.
G cannot be on the same lawn as U.
H cannot be on the same lawn as R.

11. If S and U are placed on the south lawn, each of the following must be placed on the north lawn EXCEPT
A. F B. G C. H D. J E. R

12. Which of the following groups could be planted on the north lawn?
A. F, G, H and U B. F, S, H, and U C. R, G, H, and U
D. J, G, R, and U E. J, R, S, and U

13. If S and R are planted on the south lawn, which of the following must also be planted on the south lawn?
A. F B. G C. H D. J E. U

14. If U and R are placed on the north lawn, which of the following groups must be placed on the south lawn?
A. F, G, and H B. F, S, and J C. G, H, and S D. H, G, and U E. H, S, and U

15. If G and H are planted on the south lawn, which of the following must also be placed on the south lawn?
A. S B. G C. H D. J E. U

Questions 16-20

Instruction: *In each sentence, some words are underlined. Beneath the sentence you will find different ways of phrasing the underlined part. Choose the answer that phrases the sentence in the most correct and effective way. Answer (A) is always the same as the underlined part.*

16. If he <u>would have revised</u> his first draft, he would have received a better grade.
A. would have revised B. had revised C. could of revised
D. had of revised E. would revise

17. Because she <u>had an</u> outstanding memory, Shakila has never forgotten an important equation.
A. had an B. could have had C. has an
D. did have E. has had

18. Eating, drinking, and <u>to stay up late</u> at night were among her pleasures.
A. to stay up late B. to remain up late C. staying up late
D. she liked staying up late E. to try to stay up late

19. The government requires that these forms should be submitted before the end of the financial year.
A. that these forms should be submitted
B. that these forms be submitted
C. for these forms to be submitted
D. these forms submission
E. these forms should be submitted.

20. Many scientists are still hoping to have found life on another planet
A. to have found
B. to find
C. to be finding
D. to have been found
E. too have found

Questions 21 —25

Instruction: Fill in the blanks with appropriate word/words.

21. Shall I phone the restaurant _____ table?
A. to reserve
B. for reserve
C. to reserving
D. for reserving
E. in reserving

22. Maruf is a Bangladeshi but he lives in England. He has been there_____.
A. for five years
B. since five years
C. five years ago
D. during five years
E. till five years

23. Don't forget to thank your parents for putting _____with you all these years!
A. on B. up C. for D. in E. over

24. The history teacher asked us to comment _____ the events taking place _____ Afghanistan.
A. on; on B. for; in C. for; at D. on; at E. on; in

25. There is a swimming pool near my house. I go _____ every day.
A. swim B. to swim C. to swimming D. for swimming E. swimming

Questions 26-30

Instruction: Read the following paragraphs and select the best answer for each of the questions that follow on the basis of what is stated or implied in the paragraphs.

Popularity doesn't always equal affection. Take Facebook. Five hundred million people use it, but a survey conducted by ForeSee Results found that among 30 websites it tracks, Facebook ranked second from the bottom for customer satisfaction. It was also among the lowest 5 percent of all 223 companies ForeSee tracks.

Perhaps it's a variation on the concept of "satisficing". The word "satisfice" combines the words "satisfy" and "suffice," and is meant to describe a decision-making strategy that attempts to achieve adequacy, rather than to identify an optimal solution. In the case of social media, you go where you are likely to find your friends, rather than the most user-friendly or the most useful.

Facebook is not the only satisficing option out there. The most popular smartphone in the world is the BlackBerry in terms of number of users. Yet a survey by research firm Change Wave found that only 30 percent of BlackBerry owners were satisfied with their device, versus. 55 percent two years ago. Drops in satisfaction can also be received. After all, what technology product has been more universally used and loathed than Microsoft Windows? A May 2010 survey by ForeSee found that after a period of decline, more users are happier with Windows in 2010 - 76 percent - than in any previous survey period. If Microsoft can turn it around, so can others.

26. The main objective of the essay is:
    A. To highlight the unpopular objects that we use on a regular basis in order to seek satisfaction.
    B. To establish the relationship between lack of popularity and lack of satisfaction in today's hectic world.
    C. To illuminate the reality that popularity of goods and services does not necessarily indicate satisfaction with them.
    D. To contradict the findings of major research conducted on popularity and satisfaction of modern day goods & services.
    E. To analyze the conditions under which consumer satisfaction is achieved.

27. Which of the following can be inferred from the essay?
    A. Microsoft may have lost popularity, but the consumer satisfaction has increased over time.
    B. BlackBerry can reverse its decline in popularity while gaining consumer satisfaction over time.
    C. Research firms engage in satisfaction surveys to gauge the popularity of products and services in an attempt to improve the surveyed firms' consumer image.
    D. Facebook is a satisficing option, which can, over time, become a satisfying option.
    E. None of the above.

28. In the last paragraph:
    A. An example is provided that is in contrast, in terms of user satisfaction, to the other examples provided earlier.
    B. A survey is cited that supports the ideas provided throughout the essay.
    C. A question is asked to cite an example of something that was both unpopular and dissatisfying.
    D. A statement is made as to the ease of gaining greater usage for an unpopular product or service.
    E. A survey result is presented that highlights the declining trend of satisfaction with a particular product.

29. The word 'satisfice' can be defined as:
    A. To meet one's expectations in the best possible manner.
    B. To satisfy to the point of excess.
    C. To accept a choice that is good enough but not necessarily the best.
    D. To be dissatisfied to a certain extent.
    E. None of the above.

30. Which of the following cannot be inferred from the essay?
    A. There are many websites that are more satisfying than Facebook in terms of user experience.
    B. The popularity of social media generates further usage.
    C. Once-popular items can become popular again.
    D. Consumer satisfaction can rise or fall over time, which is not necessarily related to popularity.
    E. If a popular good or service is satisfying, then it cannot lose consumer satisfaction without becoming unpopular.

Part 2: Written- 45 marks

A. Saving energy is an objective our government is trying to achieve. Discuss the measures you think that the government and the industry can adopt to meet the goal. [25]

B. Induction at workplace is not a usual phenomenon in most organizations in the country. Narrate your experience of your first day at office in any of your employment. [20]

ANSWER KEY

PART: I Multiple Choice Questions

1. D	2. D	3. B	4. C	5. B	6. C	7. D	8. A	9. D	10. C
11. C	12. B	13. B	14. C	15. A	16. B	17. C	18. C	19. B	20. B
21. A	22. A	23. B	24. E	25. D	26. C	27. B	28. A	29. C	30. E

Executive MBA (IBA) Admission Test 2010 (August) Solution

Section – I: Mathematics

1. (D) 90 pencils এক- একটির weight 100gm; সুতরাং সব কটি $= 90 \times 100$
$= 9000$ gm
$= 9$ kg

100 pens " " weight 150gm " " $= 100 \times 150$
$= 15000$ gm
$= 15$ kg

সব pens এবং pencil মিলিয়ে total weight $= 9 + 15$
$= 24$kg

box সহ weight $= 35.5$kg

pen আর pencil ছাড়া শুধু box $= 35.5 - 24$
$= 11.5$kg

∴ Answer: D

2. (D) n কে 8 দিয়ে ভাগ করলে 5 ভাগশেষ থাকে। n এর value এর একটি example হতে পারে 13,21,29 ইত্যাদি, অর্থাৎ n একটি odd number. Trial and error method apply করতে থাকলে answer হয় D. প্রথমে 5 দিয়ে গুণ করলে 5n odd number হয়। আরও 2 যোগ করলেও final number টি odd থাকে।

∴ Answer: D

3. (B) $x = 5z$

$15z = 6y$

Second equation থেকে লেখা যায়: $15z = 6y$

$\Rightarrow 3 \times 5z = 6y$

$\Rightarrow 3 \times x = 6y$ ($x = 5z$ দেখে)

$\Rightarrow x = \frac{6y}{3}$

$= 2y$

4. (C) $2x + 6x + 8x + 4x = 120.$

$\Rightarrow 20x = 120$

$\Rightarrow x = 6$

$\therefore 5x + 3 = 5(6) + 3$

$= 33$

5. (B) P parts তৈরি করতে M minutes লাগে।

∴ 5P parts তৈরি করতে 5M minutes লাগবে।

যেহেতু hours এ answer চেয়েছে, 5M minutes $= \frac{5M}{60}$ hours

$= \frac{M}{12}$ hours

6. (C) Figure থেকে Jan, Feb, Mar, Apr, May আর June এর sales হচ্ছে: 4, 2, 5, 6, 6, 7 respectively. Total sales:

$= 4+2+5+6+6+7 = 30$, 6 months এ 30 হলে on an average per month $= \frac{30}{6} = 5$

7. (D) যদি non zero হয়, তাহলে x,y,z তিনটাকেই positive অথবা তিনটাকেই negative হতে হবে। options a,b,c হবেনা কারণ x,y আর z এর exact values আমরা জানিনা, option d দুটি ক্ষেত্রেই check করে দেখি, যদি তিনটা positive হয়,

example $x=1, y=2, z=3$, $xz-y = (\text{odd} \times \text{odd}) - \text{even}$
$= \text{odd} - \text{even}$
$= \text{odd}$

$x=2, y=3, z=4$, $xz-y = (\text{even} \times \text{even}) - \text{odd}$
$= \text{even} - \text{odd}$
$= \text{odd}$

এই ক্ষেত্রে x,y আর z এর arrangement odd বা even দিয়ে start হলেও answer positive আসে।

যদি তিনটা negative হয়,

example: $x = -3, y = -2, z = -1$, $xz - y = (\text{odd} \times \text{odd}) - (-\text{even})$
$= \text{odd} + \text{even}$
$= \text{odd}$

$x = -4, y = -3, z = -2$, $xz - y = (\text{even} \times \text{even}) - (-\text{odd})$
$= \text{even} + \text{odd}$
$= \text{odd}$

দুই ক্ষেত্রেই positive odd আসে। সুতরাং Answer D.

8. (A) $\frac{3}{x} = 6$

$\Rightarrow x = \frac{1}{2}$

$\frac{3}{y} = 15$

$\Rightarrow y = \frac{1}{5}$

$x - y = \frac{1}{2} - \frac{1}{5}$
$= \frac{5-2}{10}$
$= \frac{3}{10}$

9. (D) যদি original price (100%) থেকে 20% discount থাকে,

তাহলে $80\% \longrightarrow 1250000$

$100\% \longrightarrow \frac{1250000}{80\%} \times 100\%$
$= 1562500$

10. (C) negative answer পেতে গেলে ছোট number থেকে বড় number বিয়োগ করতে হবে। যেহেতু x>y, y-x করলে negative হবে

∴ Answer: C

ANALYTICAL ABILITY

11-15

11. (C) Information থেকে যে key findings গুলো পাই তা হল:
- Forest 2 max (1 lawn এ maximum 2 forest trees থাকবে)
- G ≠ U (G আর U same lawn এ থাকতে পারবেনা।)
- H ≠ R (H আর R same lawn এ থাকতে পারবেনা।)

S আর U দুটিই forest tree অর্থাৎ আরেকটি forest tree, (R) north lawn এ থাকবে। H কে সেই ক্ষেত্রে south lawn এ দিতে হবে, কারণ north lawn এ R আছে।

∴ Answer: C

12. (B) সব conditions ধরে check করলে

∴ Answer: B

13. (B) S আর R forest trees সুতরাং third forest tree (U) north lawn এ থাকবে। যেহেতু U থাকলে G থাকবেনা, G থাকবে south lawn এ।

∴ Answer: B

14. (C) U এবং R forest trees সুতরাং third forest tree (S) south lawn এ থাকবে। U থাকলে G থাকবেনা, আর R থাকলে H থাকবে না। অতএব G আর H south lawn এ আসবে, সুতরাং south lawn এ থাকছে G, H, S.

∴ Answer: C

15. (A) G থাকলে U থাকবেনা, H থাকলে R থাকবেনা। যেহেতু U আর R north lawn এ থাকবে, third forest tree S, south lawn এ থাকবে।

∴ Answer: A

ENGLISH

16.B 2nd Clause টি তে ' Would have received' থাকার কারনে 1st Clause এ 'had revised' হবে। যদি শুধু 'would receive' থাকত, তাহলে 'revised' হত।

17. C 2nd Clause বা main Clause এ 'has never forgotten' বলা আছে, তাই 'has an' হবে।

18. C এখানে Parallel structure follow করে 'Eating, drinking and staying up late হবে।

19. B এখানে 'subjective' এর rule ব্যবহৃত হবে।

20. B

21. A

22. A এখানে পাঁচ বছর ধরে আছে বুঝানো হয়েছে।

23. B put up with means to tolerate, to bear with.

24. E 'comment on' হয় এবং country name এর আগে preposition 'in' বসে।

25. D

25. C 1st line এ বলা হয়েছে 'popularity doesn't always equal affection' এবং facebook এর example দিয়ে আরও explain করা হয়েছে।

27. B একদম শেষ লাইনে বলা হয়েছে, "If Microsoft can turn it around, so can others."

28. A এখানে facebook এর পর blackberry and Microsoft- এর example দেওয়া হয়েছে।

29. C

30. E

Executive MBA (IBA)

Admission Test Question (August-2011) with Solution

Part I: Multiple Choice Questions (MCQs)

[30 × 1 = 30 Marks]

Instruction: Answer these MCQs on the Answer Sheet given separately. You may use the blank spaces around the MCQs to do your rough works.

1. The total weight of a container when filled with water is 5kg. If $2/3^{rd}$ of the water is removed the container and the remaining water weigh 2kg. What is the weight of the empty container in kg?
   A. 0.2 B. 0.3 C. 0.4 D. 0.5 E. none of these
2. When both 38 and 87 is divided by a certain number the remainder is 3. What is the number?
   A. 7 B. 4 C. 8 D. 6 E. none of these
3. If XYZ = 1, MNZ = 0 and NYZ = 0 which of the following must be zero?
   A. X B. Y C. Z D. M E. N

X	Y
2	4
3	7
4	10
5	13

4. Which of the following describes the relationship between X and Y as shown in the pairs of number in the table above?
   A. Y = X + 2 B. Y = 3X + 2 C. Y = 2X + 1 *D. Y = 3X + 1 E. None of these
5. A product costing Tk. 600 was sold at a margin of 20% on selling price. What is the profit?
   A. 90 B. 120 C. 150 D. 180 E. none of these
6. If $x^5 y^4 z^2 < 0$ which of the following must be true?
   I. xy < 0 II. yz < 0 III. zy < 0
   A. I B. II C. III D. I and II E. none of these
7. ΨN denotes the number obtained when n is rounded to the nearest tenth. For example Ψ5.23 = 5.2. What will be the value of (Ψ0.78 – Ψ1.13)?
   A. – 0.2 B. – 0.3 C. – 0.35 D. – 0.4 E. none of these
8. If y Φ x = y + 2x for all positive integers then (3 Φ 2) Φ 4 =
   A. 9 B. 12 C. 13 D. 15 E. none of these
9. The ratio of the number of boys to the number of girls in Mentors' is 5:4. If total number of students in Mentors' at present is 72, how many girls should join to make the ratio 1:2?
   a. 100 b. 96 c. 48 d. 210 e. None of these
10. A fence 320 feet long has wooden posts each 40 feet apart. How many posts are there?
    a. 7 b. 8 c. 9 d. 10 e. 11

Questions 11 – 15

Instruction: Read the following paragraphs and select the best answer for each of the subsequent questions on the basis of what is stated or implied in the paragraphs.

Dhaka City Corporation Transportation Authority is designing two route maps. One will show railway lines, the other will show bus routes. There are three railway lines and four bus routes. Each line or route must be represented on the maps by a color used to represent it only. The colors available to the designer of the maps are blue, green, orange, purple, red, tan and yellow. Any assignment of colors to lines and routes is acceptable provided the following conditions are met.

Blue cannot be used on the same map as purple.

Orange cannot be used on the same map as red, nor on the same map as yellow.

11. If yellow and purple are used on the railway map, the third color used on that map mast be
    A. Blue B. Red C. Green D. Orange E. I am
12. If blue is used on the railway map, which of the following must be true?
    A. Orange is used on the railway map B. Yellow is used on the railway map
    C. Green used on the bus map D. Purple is used on the bus map
    E. Red used on the bus map
13. If red is used on the bus map, which of the following colors must be used on the railway map?
    A. Blue B. Orange C. Purple D. Tan E. Yellow
14. If green is neither used on the same map as blue, nor on the same map as yellow, which of the following must be true?
    A. Purple is used on the same map as orange B. Blue is used on the railway map
    C. Blue is used on the bus map D. Green is used on the same map as red
    E. Tan is used on the same map as red
15. If red and blue are used on the bus map, which of the following could be the other two colors used on that map?
    A. Green and Purple B. Green and Tan C. Orange and Yellow
    D. Orange and Tan E. Purple and Yellow

Section III: Language and Communication

Questions 16 – 19

Instruction: Select the word that best expresses the underlined word in each sentence.

16. Appalling as may sound, it is nevertheless the truth!
    A. Unbelievable B. Doubtful C. Distressing
    D. Accurate E. Uncomprehending
17. Such opportunities are rare hence they should not be wantonly squandered
    A. prudently thrown away B. needlessly availed C. Overwhelmingly accepted
    D. recklessly wasted E. randomly accepted
18. Both sides have pleaded their case well I am now much ambivalent about the matter.
    A. decisive B. undecided C. insecure D. confident E. certain
19. The art exhibition showcased a number of attractive works.
    A. repellent B. repulsive C. captivating D. suave E. deterrent

Questions 20 – 20

Instruction: Fill in the blanks with appropriate word/words

20. He was concerned ..... his low grade ..... the class.
    A. about, in B. with, on C. for, in D. for, on E. by, for
21. My head is spinning. May be, I ..... down for a while.
    A. lie B. should lay C. should lie
    D. should have laid E. should have lied
22. The path was slippery, so we walked very carefully. We were afraid .....
    A. of falling B. from falling C. at fall D. to falling E. from fail
23. The more electricity you use .....
    A. your bill will be higher B. will be higher your bill
    C. the higher your bill will be D. higher your bill will be
    E. your bill go higher
24. While ..... holiday, they vacationed ..... Malaysia.
    A. in, on B. on, in C. at, on D. in, at E. on, at

Questions 25 – 27

Instruction: Find the odd word from each list

25.	A. Behest	B. Request	C. Plead	D. Entreat	E. Demand
26.	A. Clemency	B. Pardon	C. Censure	D. Amnesty	E. Forgiveness
27.	A. Lucid	B. Clear	C. Simple	D. Easy	E. Ambiguous

Questions 28 – 30

Instruction: From the alternatives select the sentence that is correct.

28. A. Everyone except Rana and me was injured in the game
    B. Everyone except Rana and I was injured in the game
    C. Everyone except Rana and me were injured in the game
    D. Everyone except Rana and I were injured in the game
    E. Everyone except Rana and me was injure in the game
29. A. If I would have known about the traffic jam at Mirpur. I would have taken an alternate route
    B. If I knew of the traffic jam at Mirpur. I would have taken an alternate route
    C. If I would have known about the traffic jam at Mirpur. I should have taken an alternate route
    D. Had I known about the traffic jam at Mirpur. I would have taken an alternate route
    E. If one wish to apply for admission to the EMBA program, he must submit the application by August 17.
30. A. She soundly feel asleep after having finished the novel
    B. She decided to sleep after having finished the novel
    C. She went on to her sleep after having finished the novel
    D. She fell to sleep after having finished the novel
    E. She fell fast asleep after having finished the novel

Part II: Written Test

A. Bellow is given a brief profile of a non-profit, charitable organization. Develop a similar profile for an organization engaged in organizing and promoting tourism in Bangladesh.

B. Prepare a write-up (not exceeding 200 words) on Difficulties of Going From Dhaka to Home for Eid Festival'.

ANSWER KEY

PART: I Multiple Choice Questions

1.D	2.A	3. E	4. E	5. C	6.A	7. B	8. D	9. D	10. D
11.B	12.D	13.B	14.A	15.	16.A	17.D	18.A	19.C	20.A
21.C	22.A	23.C	24.B	25.D	26.C	27.E	28.A	29.D	30.E

Section I: Mathematics

1. (D) let weight of container = y
   " " " water = x
   এখানে
   দুটির যোগফল
   $x + y = 5$
   এরপর
   $\frac{2^{nd}}{3}$ water Remake করলে বাকী থাকে $\frac{1}{3}$
   তাই $\frac{1}{3}\ x + y = 2$
   Solving the equation
   $x = 4.5, 4=0.5$
2. (A) option ধরে করলে উত্তর আসে A
   কারণ $\frac{38}{7}$, Reminder = 3
   এবং $\frac{38}{7}$, Reminder = 3
3. (E) এখানে XYZ=1, তাই x, y, এবং z কোনটি ০ হবে না, MNZ = 0 এবং NYZ = 0
   এবার দুটিতে N আছে।
4. (E) এখানে Number গুলো Option A-D কষালে কোনটিতে মিলে না। তাই এটি Option E হবে।
5. (C) ধরি, বিক্রয়মূল্য Xr
   এখন, x-20% x = 600
   $0.80x = 600$
   $x = 750$
   এবার তাহলে লাভ হচ্ছে 750 – 600 = 150
6. (A) $x^3 y^4 z^2 < 0$
   এখানে y^4 এবং z^2 অবশ্যই > 0
   অর্থাৎ x^3 এবং $x < 0$
   তাই $xy < 0$
   শুধুমাত্র তাই I হবে অর্থাৎ Option A.
7. (B) প্রশ্ন অনুযায়ী,
   Y (0.78) – Y (1.13)
   = 0.8 – 1.1 = –0.3
8. (D) Y (F) X = Y + 2X দেওয়া আছে
   (3F2) F4
   = [3+2× 2] F4
   = 7F4
   = 7 + 2 × 4 = 15

9. (D) প্রশ্ন অনুযায়ী, 72 Student আছে
   so boys = 40, girls = 32
   To make ratio 1:2 girls need to be 80
   So 80 – 32 = 48

10. (D) (320/40) + 1 = 9

Section II: Analytical Ability

Question 11-15

Colours Available blue, Green, Orange, Purple, Red, Tan and Yellow দুটি Map থাকবে।

i) For Bur routes – 4টি
ii) For Railway routes – 3টি

এবং, Blue এবং, Purple একই সাথে থাকতে পারবে না।

Orange Red এবং Yellow কোনটির সঙ্গে থাকতে পারবে না।

11. (B) Yellow এবং Purple থাকলে Orange এবং Blue হতে পারবে না। Orange অন্যটি থাকলে Red এখানেই থাকবে।
12. (D) Blue Railway তে থাকা মানে Purple Bus MAP এ থাকবে ,কারণ তারা একসাথে হতে পারবে না।
13. (B) Red থাকা মানে Orange কে Bus MAP এ থাকবে।
14. (A) Green Blue এবং Yellow এর সঙ্গে থাকা না মানে হচ্ছে যে Purple এবং Orange এর সাথে থাকবে।
15. () Red Blue থাকলে Yellow থাকবে এবং Purple Orange থাকবে না। তাই এটির উত্তর Yellow এবং Tan or Yellow or Green হবে যেটি Option এ নেই।

Section III: Language and Communication

16. (A) কারণ এখানে যে ব্যাপার 'Appalling' সেটাই 'Truth' তাই ব্যবপারটা 'Unbelievable'
17. (D) কারণ যেটি 'Rare' সেটিকে recklessly waste করাকে wantonly squandered বলে।
18. (A) Ambivalent মানে হচ্ছে Undecided
19. (C) Attractive সবচেয়ে কাছের Synonym হচ্ছে Captivating.
20. (A) Correct usage of preposition.
21. (C) Correct usage of word.
22. (A) Correct usage of verb.
23. (C) Parallel structure অনুযায়ী।
24. (B) Correct usage of preposition.
25. (D) Entreat অর্থাৎ নিজে কিছু করা। বাকীগুলো সব Request words.
26. (C) Censure বাকীগুলো পুরো উল্টো Meaning Censure এর।
27. (E) Ambiguous মানে হচ্ছে Not clear or simple.
28. (A) Correct usage of Grammar.
29. (D) Correct usage of Grammar.
30. (E) Correct usage of Grammar.