



Class-Six
Subject-Agriculture Studies
Chapter – One (Agriculture in our life)

■ **Topic – Wise MCQs with Answers**

Lesson-1: Areas and Sectors of Agriculture

1. Food, cloth, shelter, treatment and education – are the basic needs of human being.
2. Overall development of agriculture based Bangladesh depends on – agriculture.
3. Crop production, livestock rearing, poultry rearing, fish cultivation and afforestation – are the included subjects of agriculture.
4. Amlaki, haritoki, bahera, thankuni, basak etc. are called – medicinal plants.

Lesson-2: Crop Production, Fisheries, Animals Birds and Afforestation

1. On the basis of cultivation, crop is mainly divided into – 2 parts.
2. Grain crop provides – carbohydrate.
3. Pulse crop provides – protein.
4. Our main cash crop is – jute.
5. Oil crop provides – fat.
6. Area covered by trees is called – forest.
7. To maintain natural balance a country needs – 25% of the total land area covered with forest.

Lesson-3: Agriculture-related necessary information and sources of Available Services

1. An experienced farmer is known as – the store house of local information.
2. In farmers' field school farmers are provided training on – integrated crop management.
3. Modern technology of agriculture, agricultural implements and produced agricultural products are exhibited – in agricultural fair.
4. In getting agriculture related information – there is no alternative to agricultural fair.

Lesson-4: Agricultural Education and Research Institution

1. Bangladesh has – 14 agricultural training institutes.
2. For producing improved varieties of rice and innovating technologies research is carried on – by Bangladesh Rice Research Institute.
3. In agricultural research institutions new varieties and technologies are invented by – agricultural scientists through research.
4. Life cycle of crop is nicely explained by – agricultural scientists.

Practice Part: Creative Essay Type Questions

■ **6 Creative Questions** | 2 from Exercise | 2 by Master Trainers | 2 of Question Bank

◆ **Questions with Answers of the Exercise**

Ques. ► 1



Figure:A



Figure:B

a. What is a field crop?



b. Agriculture fulfills man's basic needs. Explain.

2

c. What type of crop is shown in figure-A? Explain.

3 d. Which crop in

the figures is more important in consideration to economy? Give your opinion about this.

4

Answer to the question no.1

a. A crop that is cultivated in an open field without any fencing is called a field crop.

b. Basic demands of human beings include food, clothes, shelter, education and healthcare. Agriculture is our major supplier of food. Besides, we get fibre for making cloth from jute, cotton and silk. We get materials for constructing house and making furniture from wood, bamboo, straw, thatching grass and big leaves. We get medicinal ingredients from myrobalam, bellericmyroballa, taka leaf and malabar nut. Henceforth, it can be said that agriculture indeed to fulfil the basic needs of people.

c. The crop shown in the figure-A is rice. It is a field crop, belonging to the category of cereal crops. Rice is cultivated in an open field with no fencing. It takes a lot of effort and care to cultivate rice and process it for consumption. It is considered as the staple food of the people of Bangladesh and thus special emphasis has been put on its production. From the discussion here, it can be said that rice bears all the features of a field crop.

d. From the economic standpoint, the crop shown in the figure-A is comparatively more important than the other. Rice is the staple food of the people of Bangladesh. Its demand, production and sale takes place throughout the year. People spend the highest part of their total expenditure to buy this food item. Thus, the trade of rice makes major contribution to the economy of Bangladesh. It is therefore given the most emphasis of all the agricultural products.

On the other hand, figure-B shows a mango tree. Mango trade also contributes to the economy, but comparatively lesser than rice. Moreover, its demand is lower than that of rice. It is a seasonal fruit and is sold in the market at specific periods. From the above discussion, we can say that the crop shown in figure-A is more important in terms of economic contribution than the shown in figure-B.

Ques.► 2.

Mr. Mir Hossain cultivates different kinds of vegetables, flowers and fruits in his house. He is not getting good yield from his garden because of various problems and lack of appropriate advice. Last year an agriculture fair was arranged in his district town, and he saw for reading. As a result, he could solve problems existing in his garden. Next time he exchanged his experience with his neighbours.

a

a. Write an agriculture related problem.

1

b. Agriculture is developing because of experienced farmers explain.

2

c. How did Mr. Mir Hossain use experience learnt in the fair? Explain.

3

d. Analyse the result of Mr. Hossain's exchange of experiences with the neighbours.

4

Answer to the question no.2

a. An agriculture-related problem is attack of insects in the crop field.

b. An experienced farmer is one who has long-term exposure to agricultural products, methods, techniques and problems. From years of experience, they know what and when to cultivate in the crop field in order to get a good harvest. They are a vital source of information and support for the newbie farmers and can help the latter to solve their agricultural problems. Thus, it can be said that the experienced farmers play a supportive role in continuing the agricultural activities uninterruptedly.

c. The agricultural fairs not only display the improved variety of crop and the latest technology but also educate everyone on the use and application of these in real time crop production. Mir Hossain also acquired a lot of information and advice by visiting the fair. He learnt of many agricultural issues from the books he bought at the fair. Besides, he enriched himself with the knowledge of different seedling, seed, fertiliser,



farming technique and technology from the different stalls there. Using the knowledge, he could better understand the problems at his garden and could solve those by himself.

d. Mir Hossain's neighbours would be benefited from the experience and information that he shared with them. He acquired a lot of information and advice regarding agricultural activities and technology at the fair that he visited recently. Using these knowledge, he was able to solve the problems at his garden. Through sharing his experience, he helped the neighbours to learn of the improved agricultural technology and solutions. Thus, they could now do cultivation with more ease, solve their problems themselves and enhance the production subsequently. Besides, they also learnt of a credible source like the agricultural fair where one can discuss their farming and production issues with experienced farmers and agriculturists and gather diverse information.

◆ **Additional Creative Questions with Answers to get 'Common' in the Exam**

Ques. ► 3

Saju Miah visited an agricultural fair in Gaibandha recently. He collected leaflets, bulletins and magazines and enjoyed movies on agriculture-related information there. He learnt of the latest techniques and technology. He bought some seedlings of fruit and wood plants from there and planted those beside his house.

- a. Whose presence is vital for the continuation of rural agriculture? 1
- b. Why should we actively engage in fish culture? Explain. 2
- c. How was Saju Miah inspired about the agricultural activities by visiting the fair mentioned in the stem? Describe. 3
- d. Will Saju Mia's tree plantation play a role in maintaining ecological balance? Give your opinion in the light of the textbook. 4

Answer to the question no.3

- a.** The presence of experienced farmers is vital for the continuation of rural agriculture.
- b.** Fish is our favourite food. It supplies us protein. But day by day most of the local fishes are becoming extinct. Due to many reasons of water pollution in open water and rivers presently fish culture is declining. So, we should actively engage in fish culture to solve these problems and increase fish production.
- c.** The fair mentioned in the passage was an agricultural fair. Saju Miah observed different types of crops there. Improved variety of seedling, seed, fertilizer, technique, technology etc. were displayed there. Besides, agricultural information is presented in an agricultural fair. Through the fair modern agriculture technology and yield are shown to the public. As a result, people who are present there are inspired in agricultural activities. Saju Miah was a visitor of this fair. So, he was inspired in agricultural activities very easily.
- d.** Plants play a unique role to maintain ecological balance. So, I think Saju Miah's tree plantation will play a major role in maintaining the ecological balance.

Animals and plants have intensive inter-relation. Our environment is in threat because of different reasons. Environment is losing ecological balance because of different types of pollution, such as air, water, soil, sound etc. Carbon-dioxide is increasing because of the excessive cutting of trees. As a result, different problems like greenhouse effect are occurring.

We receive oxygen which is released by plants. And plants receive carbon-dioxide which we release. In this way, balance of oxygen and carbon-dioxide is maintained. But the ratio of cutting trees and tree plantation is not the same. So, we have to save plants to save ourselves. It can be said that, Saju Miah's tree plantation will play a significant role in maintaining the ecological balance.

Ques. ► 4

Jahid and Raihan are two brothers. Both of them completed their education but are unemployed. They tried but failed to get an office job. A few days ago, their father died, leaving them behind a good amount of



family land. Jahid decided to take up farming as his occupation and produced different types of cereal and medicinal crops on the land. Meanwhile, Raihan started his business of jute, cotton and silk.

- a. Mention an important use of amloki. 1
- b. Explain the significance of field crops in the context of the economy of Bangladesh. 2
- c. How is Raihan's business contributing to the garment industry? Explain. 3
- d. The crops produced by Jahid play a significant role in livestock rearing and fish culture. Analyse. 4

Answer to the question no.4

- a. We can make medicine from amloki.
- b. The importance of field crops are enormous in the economy of Bangladesh. Many people earn their livelihood by cultivating these crops. Besides, many mills and industries are established centering these and it is creating the opportunity of employment for hundreds of people.
- c. The business materials of Raihan mentioned in the passage are included in fibre crops. The crops from which we get fibre are called fibre crops. We get fibre from jute, cotton and silk which are the main raw materials of thread.

Garments industry is mainly dependent on thread or yarn. So garments industry has been developed centering thread. As much as the production of thread will be, garments industry will also be developed. So it can be said that the business materials of Raihan are helping our garments industry.

- d. At present, many local fishes are being extinct. At the same time, the government is trying to protect the fish resources. The cultivation of local and foreign fishes is kept going by creating artificial sanctuary. Natural foods and at the same time artificial foods are supplied to them. And artificial foods are prepared from the crops produced in agriculture.

Similarly, the poultry farms and the farms of cows and buffaloes have been established to meet the demand of egg, milk and meat. A huge amount of cereal crops are being supplied to these farms. And these foods are produced from agriculture.

From the discussion above, it appears that, the fish culture and rearing of animals and birds are dependent on the agricultural cereal crops. The production of fisheries, animals and birds will decrease if these crops are not produced. Therefore, it can be said that the crops produced by Jahid are playing important role in fish culture and rearing of animals and birds.

◆ Question Bank

Ques. ► 5

After completing their studies, Limon and Reja went back to their native home in the village. The two brothers decided to take up farming as their occupation. Limon cultivated cereal crops while Reja cultivated fibre crops in their family land.

- a. Name some sources of fat. 1
- b. Why is it important to produce cereal crops in abundance in Bangladesh? 2
- c. How do the crops produced by Reja play an important role in the garment industry? Explain. 3
- d. The crops produced by Limon are helping in fish culture.-Analyse. 4

Answer to the question no.5

- a. Mustard, palm, soybean and sunflower are some sources of fat.
- b. Cereal crops like rice, wheat and maize are the main food items of the people of Bangladesh. People's daily feeding and food security depends on the production of these crops. Thus, these crops should be produced in abundance to ensure adequate food supply for all.

Super tips: For answering Application and Higher Ability –

- c. Explain the importance of fibre crops in the garment industry.
- d. Analyse the role of cereal crops in fish culture.



Ques.► 6. Rahim, a farmer, noticed that most of the paddy sheaf in his field have turned yellow and the plants could be removed easily. This worried him and he visited the local agriculture officer who offered him some tips to solve the problem. The officer also suggested Rahim to attend the farmer's meeting and visit an agriculture fair.

- a. What can a farmer learn at the farmer's field school? 1
- b. Whom can farmers get necessary agriculture-related information and advice from. 2
- c. Who helped Rahim to solve the problem at his field? How do they help farmers in general? 3
- d. Analyse the importance of the programmes suggested by the officer in the context of agriculture. 4

Answer to the question no.5

- a. Farmers can learn about farming techniques, crop diseases, insects and pest control, irrigation and harvesting at the regional farmer's field schools.
- b. Information on agricultural matters and services are provided to the farmers by agricultural extension workers and staff of the Directorate of Agriculture, Directorate of Livestock, and Directorate of Fisheries. Moreover, farmers can avail similar information from the agricultural fairs and regional farmer's meetings.

Super tips: For answering Application and Higher Ability –

- c. Discuss the role of agriculture officer in providing necessary information to the farmers.
- d. Explain the importance of farmer's meeting and agricultural fair.

Revision Part

◆ Knowledge-based questions with answers

Ques-1. In terms of what is Bangladesh divided into 30 zones?

Ans: Agricultural production and environment.

Ques-2. What is an oil crop?

Ans: The crop from which we get oil and fatty elements is called an oil crop.

Ques-3. What is a forest?

Ans: A forest is an area covered with a diverse variety of wild plants and trees.

Ques-4. What do forests fulfil the demand of?

Ans: Wood and firewood.

Ques-5. What is the meeting where farmers share their agricultural experiences called?

Ans: Farmer's meeting.

Ques-6. At which fair can we access agriculture-related information?

Ans: Agricultural fair.

Ques-7. Which office can farmers seek agriculture-related advice from?

Ans: Zilla and upazila agriculture office.

Ques-8. Which institution conducts research on animals?

Ans: Bangladesh Livestock Research Institute.

◆ Comprehension-based questions with answers

Ques-1 What do you understand by the demands of human beings?

Ans : The demands which need to be fulfilled for the sound and healthy life-style are called basic demands. According to the constitution, the basic demands of human beings are food, cloth, shelter, health and education.



Ques-2. Why agriculture is very important in our lives?

Ans: The overall development of agro-based Bangladesh depends on agriculture. So, there will be economic development, if we can ensure development in agriculture. As a result, there will be development of people specially farmers, unemployment will be eradicated, agricultural education and agricultural industry will be expanded and Bangladesh will be a developed country. So, agriculture is very important in our lives.

Ques-3. Explain the role of animals and birds in agriculture industry.

Ans: We get meat, milk, egg and leather from birds and animals. Different industries, mills and factories are raised centering these which are contributing to national economy.

Ques-4. Explain the duties and responsibilities of upazila agriculture office.

Ans: The duties and responsibilities of upazila agriculture office are providing information and services related to agriculture such as various news regarding agriculture from research institutions and government, technology, news and availability of agriculture equipment, problems and solutions to the crops etc.

Ques-5. Explain the role of agricultural research institutions in the agricultural development of Bangladesh.

Ans: In the agricultural research institutions, efficient and eligible scientists research on agriculture. They are doing research with their intelligence on agricultural crops that grow in the weather of Bangladesh. They are developing new variety of crops and animal breeds and preservation methods. So, the agricultural production is increasing gradually.

Chapter – Two (Agricultural Technology & Equipments)

■ Topic – Wise MCQs with Answers

Lesson-1: Concepts of Agricultural Technologies

1. The first invention of mankind as technology is – agriculture.
2. Crop production and livestock rearing are – the primitive technologies of agriculture.
3. To solve agricultural problems, obtained knowledge and techniques from research of agricultural science are called – agricultural technology.
4. For ploughing primitive people use – pointed sticks.

Lesson-2: Use of agricultural technologies


1. For mitigating food deficit – high yielding rice varieties are being cultivated.
2. After the recession of rain water maize seeds – can be sown in the puddle land.
3. If maize is cultivated in zero tillage – less money and labour is required.
4. In general condition chicken egg remains good for – 5-10 days.

Lesson-3: Ideas of Agricultural Equipments

1. Agriculture is – a vocational work.
2. First work of agricultural activity is – land ploughing.
3. Last work of agricultural activity is – storing.
4. The implements which are used to accomplish agricultural activity are called – agricultural equipment.

Lesson-4: Uses of hand operated agricultural machineries

1. For land ploughing BARI plough require – 2 folds more time than country plough.
2. Both dry and wet land can be ploughed by – BARI plough.
3. Disease and insect of crops can be controlled by using – knapsack sprayer.

 4. Indigenous developed hand operated thresher for rice or wheat is – paddle thresher.

Lesson-5: Uses of power-operated agricultural equipments

1. Land can be ploughed deeply and quickly by – power tiller.
2. Mentionable part of power tiller is – rotating plough.
3. Centrifugal pump is used for – irrigation.
4. Rabi crop threshing machine is good for – threshing crops of low moisture.

Lesson-6: Selection of Good Seed

1. Germination percentage of good seed is at least – 80%.
2. To obtain good quality seed, seed should be collected from – disease and insect free land.
3. Percentage of selected seeds = $\frac{\text{Total seed weight} - \text{Separated materials weight}}{\text{Total seed weight}} \times 100$

Lesson-7: Green grass Preservation

1. Method of green grass preservation is called – silage.
2. The place of hole where grass is preserved is called – silo pit.
3. In airtight condition chemical produced in the grass of silo pit is – lactic acid.
4. Scarcity of grass is occurred – in winter.
5. For silage, it is good to have – carbohydrate rich grass.
6. In silage straw and green grass ration is – 1:5.
7. In 1 cm³ hole of silo pit – 700 kg grass can be kept.

Lesson-8: Fish culture in Pane

1. An approved technology for farmers in the areas where there is no river, lake, haor is – fish culture in pane.
2. Size of small fish pane is – (3 x 2 x 2) cm³.
3. Number of fish fries has to be released per cubic meter of the pane while doing fish culture of tilapia in pane is – 200-300.
4. In case of fish culture in pane, per day fishes have to be provided food – 6-7% of body weight.

Lesson-9: Local agricultural equipments for crop production and uses

1. Plough cultivate land splitting the soil – with the help of share.
2. Number of groves present in the beam is – 8-5.
3. Number of holes present at the two end of yoke is – 2.
4. Ladder is mainly prepared by – bamboo or wood.
5. Instrument used for thinning is – rake.

Practice Part: Creative Essay Type Questions

■ 6 Creative Questions | 2 from Exercise | 2 by Master Trainers | 1 of Question Bank

◆ Questions with Answers of the Exercise

Ques. ► 1

Kasimpur is an agricultural-technology-dependent village. The farmers here are dependent on machine for agricultural work. In comparison to neighbouring villages, their crop yield is much higher. Agriculture officer, Mr. Rasel motivated the farmers of neighbouring villages Honipur like Kasimpur to use modern agricultural technology. He gives advice to Haripur through house yard meeting and takes villagers to field visits to see the activities of farmers in Kasimpur.



1. What is called agricultural technology? 1
- b. In the agricultural sector, modern technology saves the wastage of time. – Explain. 2
- c. Explain the reason of getting more yield by the farmers of Kasimpur village. 3
- d. Explain the reason of getting more yield by the farmers of Kasimpur village. 4

Answer to the question no.1

- a. To solve agricultural problems and get research knowledge from agricultural science and techniques is called agricultural technology.
- b. Modern technology in agriculture means high-yielding varieties of crops, mechanical plough, organic and chemical fertilizer for land fertility, crop threshing and winnowing machine. These machinery can cultivate more land in less time than the ancient equipment. So, it can be said that modern technology makes the agricultural activities time-efficient.
- c. Kasimpur is a village dependent on modern technology. They carry out their farming activities using the modern agricultural technology such as high-yielding varieties of crops, mechanical plough, organic and chemical fertilizers, crop threshing and winnowing machines. As a result, the farmers of Kasimpur can cultivate more land in less time. Besides, there are less diseases in crops and damage from weeds by using the modern technology. Thus, farmers can grow more crops. So, it can be said that the reason behind producing more crops at Kasimpur is the use of modern technology.
- d. Agriculture officer Rasel shares the success story of the agricultural technology-dependent farmers of Kasimpur with the farmers of Horipur through field meetings. He also took the farmers of Horipur to observe the activities of the farmers of Kasimpur. Rasel's initiative for the farmers of Horipur is appreciable. They will be motivated to use modern technology after visiting Kasimpur and thus will be able to improve their own agriculture. They will also be able to solve their problems through field meetings and the farmers of the two villages will get opportunity to exchange their views.

Ques.► 2

Mr. Rafiq, a conscious farmer, always uses good quality selected seed for crop production. This year he purchased some seeds for wheat cultivation. From the seeds, he takes 100 gm seeds by selection and has got the following materials:

- *Other variety of seeds – 5 gm
- *Broken and insect eaten seeds – 6 gm
- *Immature seeds – 3 gm
- *Weed seeds – 1 gm
- *Inert material – 1 gm

- a. What colour will good seeds be? 1
- b. Mixing of different materials deteriorate the seed quality of improved breed seeds. Explain. 2
- c. Find out the good seed rate in percentage which is selected by Mr. Rafiq. 3
- d. Evaluate the work of Mr. Rafiq to produce more crops. 4

Answer to the question no.2

- a. The minimum germination rate of a good seed is 80 percent.
- b. If there are other materials in the seeds, its germination rate will be decreased. Mixture of different materials makes seeds unclean and changes its normal colour. This way, its quality is lost and it becomes worthless.
- c. In Rafiq's seeds, there are 5 gram of other variety seeds, 6 gram of broken and insect-eaten seeds, 3 gram of immature seeds, 1 gram each of weed seed and inert material.

$$\begin{aligned} \text{The total weight of the mixture} &= (5+6+3+1+1) \\ &= 16 \text{ gram} \end{aligned}$$



$$\begin{aligned} \text{Percentage of selected seeds} &= \frac{\text{Total seed weight} - \text{Separated materials weight}}{\text{Total seed weight}} \times 100 \\ &= \frac{100-16}{100} \times 100 = 84\% \end{aligned}$$

The percentage of seed rate of the seeds selected by Mr. Rafiq is 84%

d. Mr. Rafiq is a conscious farmer. He always uses good quality seeds that he himself selects. He knows that good seeds are the precondition of good crops. So, he selects the required seeds after purchasing it for wheat cultivation. Rafiq's seed selection is effective in producing more crops. Other variety of seeds, broken and insect-eaten seeds and small seeds mixed with pure seeds are removed during seed selection process. As a result, the rate of seed germination is increased, the possibility of insect attack on the crops is decreased, the possibility of weed growth is reduced and the good crops can be determined. Probability of increasing both production and profit is created by this.

◆ Additional Creative Questions with Answers to get 'Common' in the Exam

Ques. ► 3

Sabuj Miah took part in a training for seven days at the agricultural training centre. He learnt about the lifestyle of ancient people, how ancient technology of agriculture developed gradually, invention of modern agricultural technology and its use from the training. By applying the knowledge acquired from the training, Sabuj Miah could plant trees in homestead, cultivate Maize in zero tillage area and preserve eggs in earthen pot for many days.

- In which side of the homestead can Cinnamon and Pomegranate trees be planted? 1
- How was agricultural technology invented by the ancient people? Explain. 2
- How did Sabuj Miah apply the knowledge acquired from the training in preserving the farm's eggs as mentioned in the passage? Explain. 3
- The unemployed citizens of the country can play a vital role in its development through engaging in agriculture using the modern technology, just like Sabuj Miah. – Give your opinion. 4

Answer to the question no.3

- Cinnamon and Pomegranate trees can be planted on the front side of the homestead.
- In the ancient age, people lived by hunting and ate the meat of animals and birds when they did not learn about the agricultural works. They ate fruits and roots by collecting those from the forests. However, they realised that by hunting and collecting fruits they could not satisfy their hunger. They soon observed that seeds that fell on the soil germinated and grew up into plants and bore flowers and fruits. Thereafter, they started cultivating the plants they could eat. Primitive men used pointed sticks to loosen the soil for planting the seeds and produced crops over a small area. This way, humans started agricultural activities and invented equipment and technology using their intelligence.
- Sabuj Miah took part in training for the development of poultry farm. He obtained knowledge from the instructor to preserve eggs of the farm for many days. Generally eggs do not remain good more than 5-10 days. He used earthen pot to preserve eggs for many days. He dug hole in the floor of house and kept eggs setting pot in that hole. Wood coal is kept around the earthen pot in the hole and eggs remain cold by putting water. It is possible to keep eggs good for 20-25 days due to this cold environment. Sabuj Miah was benefited financially using this knowledge of preserving eggs.
- The educated unemployed adults in our country can obtain practical knowledge by taking trainings on different subjects of agriculture like cultivation of vegetables and fruits, poultry farm, fish cultivation, dairy farm, setting up a nursery etc. They can solve unemployment problem by taking trainings and cultivating different vegetables and fruits, setting up poultry farm, fish culture, dairy farm, nursery and applying training based knowledge and by creating self-employment. For this, use of modern technology is necessary.



Because, wastage of money, time and labour is controlled through application of modern technology. For example, use of power tiller or tractor instead of wooden plough is a modern technology. Besides, use of seed drill for sowing seed, Japanese weeder for controlling weed, paddle thresher for threshing crops etc. agricultural equipment has eased agricultural system.

So, the educated unemployed adults of the country can be trained selecting any subjects related to agriculture and they can contribute a lot to country's economy by using modern technology.

Ques. ▶ 4

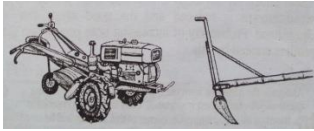


Figure:1

Figure:2

- Which type of machines would people of ancient age use to sow seeds by cleaning weed?
1
- Write down two important advantages of BARI seed sowing machine. 2
- Mention application and uses of figure 2 of the stem. 3
- Figure no.1 of the stem plays significant role in producing crops. Give your opinion about this.
4

Answer to the question no.4

- In the ancient age, people would sow seeds cleaning weed by digging soil with the help of wooden, bone or stone made pointed machines.
- Uses of machinery are different according to agricultural work and crop. BARI seed sowing machine is an improved agricultural equipment. Two important advantages are as follow:
 - Seeds can be sown in right distance and depth.
 - Less quantity of seeds is required.
- Figure no.1 of the stem is BARI plough that is a part of hand operated agricultural machineries. This BARI plough is used to plough both wet and dry land. Uses of BARI plough are mentioned below:
 - BARI plough is used to cut and turn over the soil.
 - No land is left without cultivation in the first plough.
 - Width and depth of cultivation is more than country plough.
 - Half time is required to prepare the whole land in comparison to the country plough.
- Different types of power driven agricultural machineries have been invented to make agricultural works easy. Figure no.1 in the stem is a power driven agricultural machine which is known as power tiller. It plays a vital role in ploughing land. Land can be ploughed rapidly and deeply with power tiller. The soil is well pulverized and weed are destroyed at this. As a result, weed are changed into organic fertilizer mixing with the soil. Important part of it is rotating plough. At the time of ploughing, the blade/plough is rotated in a heavy speed. As a result, the land is ploughed deeply. Consequently, harmful insects under the soil are destroyed at the sun rays. Besides, it makes the nutritious elements that lie in the soil suitable for trees to absorb. The merits to operate rotating plough are that dier or tine plough and rotary plough etc. can be used with it. So, it can be said that the role of using power tiller is immense in producing crops in the land.

◆ Question Bank

Ques. ▶ 5. Antor wanted to take up farming as an occupation after completing his secondary level education. He took part in different house yard meetings to know more about agriculture. An age old farmer Rafique Miah gave him idea about agriculture from the ancient age till the present time. The agriculture officer taught him the principles of different agricultural technologies such as tree plantation in homestead, maize



Cultivation in zero tillage and egg preservation. Later, Antor went back home with some quick fruit-bearing trees, big trees and decorative trees.

- a. Write down the name of an agricultural equipment used by primitive people. 1
- b. Explain the past condition of the first agricultural invention of the primitive people. 2
- c. How will Antor plant the trees in the homestead that he brought after training? 3
- d. Likewise Antor, people in the modern days can play a vital role in the agricultural development. Explain. 4

Answer to the question no.5

- a. A suitable agricultural equipment of the primitive people is pointed stick.
- b. People ate meat by hunting animals and birds before inventing agricultural work. Men satisfied their hunger by eating meat of those animals and birds. Apart from this, they ate collecting the fruits which were produced naturally in the trees of forest. With the passage of time, that food seemed to them less than their demand. Then they inclined to agricultural work.

Super tips: For answering Application and Higher Ability –

- c. Explain the technique of planting quick bearing fruit, big and decorative trees in homestead.
- d. Discuss how agriculture is improved by using agricultural technology.

◆ Knowledge-based questions with answers

Ques-1. Name a quick fruit bearing tree.

Ans: Quick fruit bearing tree is papaya.

Ques-2. Where are ginger, turmeric and taro planted?

Ans: Ginger, turmeric and taro are planted in the shady places.

Ques-3. How many parts are there in a pesticide spraying machine?

Ans: There are 5 parts in a pesticide spraying machine.

Ques-4. Name a power operated threshing machine.

Ans: BARI crop threshing machine.

Ques-5. What is called green grass preservation method?

Ans: Green grass preservation method is called silage.

Ques-6. What is called where grass is preserved in the specific pit?

Ans: Grass preserved in the specific pit is called silo pit.

Ques-7. Write down the ratio of green rice straw and green to grass in preparing silage.

Ans: The ratio of green rice straw and green grass should be 1:5.

Ques-8. When should preserved grass in silo pit be given the cows to eat?

Ans: When green grass shortage is occurred, preserved grass in silo pit should be given to the cows to eat during the period from October to November.

◆ Comprehension-based questions with answers

Ques-1. How has technology made agricultural work easier?

Ans: Agricultural technologies are – mechanical plough, cultivating high yielding rice, using fertilizer for land fertility, seed sowing equipment, crop cutting machine, crop thresher and winnowing. More crop production is possible at less money, time and labour due to these technologies. It costs much money, more time and labour to do these works without technology. Using technology has made modern agriculture easier.

Ques-2. How is maize cultivated in zero tillage done?



Ans: Maize can be cultivated without land ploughing. The land remains muddy after the removal of rain water. If maize seed is sown in that land, good yield may be found. As a result, money is earned and less labour is required.

Ques-3. How can hen's eggs be preserved for many days?

Ans: Making pit in the floor of the house and setting earthen pot there hen's eggs should be preserved. If pot's surrounding is wet with water putting wood and cool there, eggs remain good for 20-25 days.

Chapter -Three (Agricultural Inputs)

■ Topic – Wise MCQs with Answers

Lesson-1: Soil composition

1. Structural elements of soil are – 5.
2. On the basis of volume amount of mineral matter in soil is – 45%.
3. Organic matter is called – the life of soil.
4. On the basis of volume amount of organic matter in soil is – 5%.
5. In ideal soil amount of water is – 25%.

Lesson-2: Classifications of soil

1. The mineral particles whose diameter is 2 mm or less are called – soil particles.
2. On the basis of texture soil is classified by – mainly 3 classes.
3. Amount of sand in sandy soil is – 70% or more.
4. The soil that contains less than 70% sand particles but more than 20% is called – loamy soil.
5. Best soil for cultivation is – loamy soil.
6. Amount of clay particle in clayey soil is – 40%.

Lesson-3: Properties of Soil

1. The properties of soil is divided into – 3 classes.
2. Water holding capacity is more – in clayey soil.
3. Acidity, alkalinity, salinity etc. are the – chemical properties of soil.
4. Number of organism and microorganism, type and function is the – biological properties of soil.
5. Rice grow well – in clayey soil.

Lesson-4: Irrigation

1. Removal of excess water from land is called – drainage.
2. Artificial application of water in the land for the growth of crop is called – irrigation.
3. Main sources of irrigation are – 2.
4. Main source of underground water is – rain water.

Lesson-5: Necessity of Irrigation

1. When excess water remains in the field, – deficiency of water occurs at the root zone of the plant.
2. Rainfall does not occur in Bangladesh – in the winter.
3. During rainy season less rainfall occur – at the western part.
4. Soil temperature can be maintained – by irrigation.

Lesson-6: Water for fish culture

1. High productivity of fish pond can be understood by – the light green colour of the pond water.
2. Productivity of pond becomes more, if the clearness of water is – 25 cm or less.
3. Best depth of pond for fish culture is – 2 meter.



4. Growth of fish is less – during the winter.
5. Best temperature for culturing Rui type fish is – 25°-30° c.
6. Fishes gasp – due to the lack of oxygen.
7. Congenial pH of water for producing natural food in pond is – 6.5-8.5.

Lesson-7: Water for livestock

1. Water helps – in digestion, metabolism, excretion of poisonous materials from body.
2. Amount of water in animal body is – 70%.
3. Amount of water intake by a milking cow is – 30-40 L/day.
4. A hen daily takes – 200-300 ml.

Lesson-8: Characteristics of seed

1. Means of reproduction of plant is – seed.
2. Pathorkuchi plant reproduce – through leaves.

Lesson-9: Quality of good seed

1. Germination percent of good seed is at least – 80%.
2. First symptom of good seed is – natural brightness.
3. Moisture percent of grain seed should be – 8-10%.

Lesson-10: Classification of seeds

1. On the basis of use seed is of – 2 types.
2. Fertilized and mature ovule of plant is called – botanical seed.
3. Any plant part that can produce new plant of itself variety under favourable condition is called – agronomic seed.
4. On the basis of presence of seed coat seed is of – 2 types.
5. On the basis of number of cotyledon, seed can be divided into – 2 parts.

Lesson-11: Classification of Fertilizers

1. Essential nutrient element for completing life cycle of plant is – 17.
2. On the basis of source fertilizer is of – 2 types.
3. Organic fertilizer is produced – from the residue of plant and animal.
4. Fertilizer produced in the factory is called – chemical fertilizer.

Lesson-12: Use of fertilizer in agricultural activities

1. For meeting the deficit of plant nutrition more effective fertilizer is – chemical fertilizer.
2. Urea fertilizer provides – nitrogen to plants.

Practice Part: Creative Essay Type Questions

■6 Creative Questions| 2 from Exercise| 2 by Master Trainers| 1 of Question Bank

◆Questions with Answers of the Exercise

Ques.►1

The yard of Majid, a farmer, gets filled with straw, empty grains and leaves in every threshing season of crops. As a result, the environment the house becomes dirty and unhygienic. With the device of the sub-assistant agriculture officers, Majid adopted the method of utilising the wastage and applied these to his agriculture fields.

- a. What is called organic matter?



- b. The crop production of a field depends on its soil texture.Explain the method. 2
- c. How will Majid utilize the wastage of his house? Explain. 3
- d. Analyse how Majid’s decision will influence his agricultural activity. 4

Answer to the question no.1

- a.** The substance which is produced by the decomposition of plant and animal dead body, homestead plants, vegetables wastage, leaves, straws, stool of animals etc.
- b.** The comparative quantity or percent of ratio of sand, silt and clay particles in the soil is called soil texture. It is difficult to plough if the presence of sand or clay particles is more in the soil. On the other hand, it is comparatively easy to plough the land if half percent of sand, silt and clay particles are present. Production of crops is also good. So, it can be said that the crop production of a field depends on soil texture.
- c.** Majid’s house gets filled with straw, unfilled grains and leaves. We know, organic matter in the soil is produced as a result of decomposition of plant and animal dead body. If wastage of Majid’s house is mixed with the soil, it will turn into organic matter being decomposed. There is organic matter in organic fertilizer. It improves physical, chemical and biological characteristics of the soil. It checks soil erosion, makes the air-water movement of the soil easier, increases number of earthworms and their activities in the soil, controls soil moisture and temperature.
- d.** Majid decides that he will prepare organic fertilizer mixing his homestead wastage with the soil. Organic matter will be increased if organic fertilizer is used in the soil. In the presence of organic matter in the soil physical, chemical and biological characteristics of the soil will be improved, soil erosion will be decreased, the air and water will be able to move in the soil, number of earthworms and their activities in the soil will be increased, soil moisture and temperature will remain at sufficient standard. If soil condition improves by this way, Majid’s production will be increased. Necessity of using fertilizer, irrigation etc. will be decreased in his land. As a result, Majid’s agricultural activities will become easier than before.

Ques. ► 2

Group	Natural of Soil Particle	Classification of soil	Crop/Characteristics
A	70% sand	?	a kind of melon (futi), a kind of melon (Banggi), water melon
B	40% sand	Loamy soil	?
C	60% sand	?	make the land suitable for rice cultivation

- a. What is soil? 1
- b. Why are organic matters called the life of the soil? Explain. 2
- c. Explain how the soil in Group –C can be made suitable for rice cultivation. 3
- d. Which soil among the given charts is best suitable one for crop cultivation? Analyse the reasons. 4

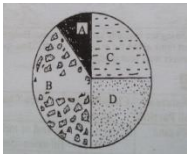
Answer to the question no.2

- a.** Soil is the uppermost layer of the earth surface which is formed by the integration of minerals and organic matter.
- b.** The activities of micro-organisms of the soil increase improves physical, chemical and biological characteristics of the soil, checks soil erosion, increases the number of earthworms and their activities in the soil, controls soil moisture and temperature. For these reasons organic matter is called the life of soil.
- c.** There is 60% sand in the soil of group C. So, this is loamy soil. The soil that contains less than 70% sand particles, but more than 20% is called loamy soil. As there is 60% sand in the soil of group C, this soil is included in loamy soil. Naturally sandy loamy soil is suitable for paddy cultivation but more crops can be produced by applying compost, cow-dung and green manure in this soil.



1. There is 40% sand in the soil of group B in the chart. This is loamy soil. There is 60% sand in the soil of group C. This is sandy loam soil. And there is 70% sand in the soil of group A. So, this is sandy soil. We know that the soil which contains less than 70% sand particles but more than 20% is called loamy soil. But a typical loamy soil should contain fifty percent sand particles and rest half silt and clay. This soil is suitable for cultivation. All kinds of crops grow better in this type of soil. There is 40% sand in the soil of group B. This soil is directly suitable for cultivation. 60% sand remains in the soil of group C. Paddy crops cannot be cultivated directly in this soil. Organic matter should be applied. 70% sand remains in the soil of group A. This soil is completely unsuitable for paddy cultivation. It is necessary to apply enough manure and organic matter to cultivate paddy. Or, water melon, fruity type crops should be cultivated. So, it can be said that the soil of group B is the best one for crop cultivation.

◆ **Additional Creative Questions with Answers to get ‘Common’ in the Exam Ques.▶ 3**



- a. What quantity of water does soil contain? 1
- b. Air is an important component of the soil.-Explain. 2
- c. How was the soil texture made from part ‘B’? Describe. 3
- d. Which part of the figure is important to make clayey soil suitable for cultivation? Give your opinion. 4

Answer to the question no.3

- a. The quantity of water in the soil is about 25%.
- b. Air is the most essential component for the life of trees. The nodular bacteria of plants, fungus and other microorganism activities that require are provided by the soil air. For this reason, air is called an important component of the soil.
- c. Part ‘B’ of the figure is mineral matter. It occupies 45% of the soil. The influences of natural forces like temperature, rainfall, wind blow, air and snowfall etc.have crushed parent rock and created inorganic or mineral matters of soil for a long time. The sand, silt and clay particles are mineral matters of soil. Thus, mineral matters are mixed at various proportions and have formed different soil textures.
- d. Part ‘A’ of the figure can play a vital role in making clayey soil suitable for cultivation. The name of this part is organic matter. The quantity of organic matter in the soil is 5%. The soil that contains minimum 40% clay particles is called clayey soil. This soil is difficult to plough. But this soil may be made suitable for cultivation by applying organic fertilizer. As organic manure cow dung, compost and green manure can be used. These organic fertilizers improve the soil’s physical, chemical and organic manures. It makes water and air movement easy in the soil. Besides, it controls moisture and temperature of the soil. As a result, fertility of the soil is increased.

Ques.▶ 4

Shahin and Ashraf are two brothers. After their father’s death, their family land was equally distributed among them. Shahin decided to grow sweet potato and teasel gourd in his portion of the land. Meanwhile, Ashraf decided to cultivate IRRI rice in his land and bought IRRI seeds from the market. On opening the pack, he found seeds of different sizes in it. Shahin advised his brother not to sow these seeds, but Ashraf went ahead to sow the seeds.

- a. What is the best way to maintain the moisture of cereal grain’s seed? 1



- b. Why are gram, pumpkin and pea called non -cereal seeds? 2
- c. What type of seed must Shahin use in his land? Describe. 3
- d. To what extent was Ashraf right in his decision? Evaluate. 4

Answer to the question no.4

- a. To keep cereal seed grains, 8-10% moisture is best.
- b. A cereal crop is defined as a grass grown for its small, edible seed. All cereals are angiosperms, monocots and members of the grass family Gramineae. As gram, pumpkin and pea do not belong to the family Gramineae and do not have those characteristics, they are non-cereal seed.
- c. Shahin will use agronomical seed in his land. According to agronomical scientists, any plant part that is under favourable condition, can produce new plant of itself variety is called on agronomic seed. On the other hand, botanical seed is the matured and fertilized ovule containing an embryo. Potato is a tuberous root crop. It is a modified stem. For growing potato, we use this tuber which is not a botanical seed rather an agronomical one.
- d. Ashraf’s decision mentioned in the passage is not right. Because same sized seed should be sown for good production. Different sized seeds produce less crops. It is very essential to sow same sized seed for getting maximum production. It has been found in lab test that 10% production decreases for size difference of paddy and wheat seeds. Use of sized seeds gives 20% more production than that of small sized seeds. Ashraf’s seeds mentioned in the passage were different sized. As a result, there will be difference in production in his land. That means, production will be less. In this regard, Ashraf’s decision is not right. If someone takes this kind of wrong decision he will have to face financial loss.

◆ Question Bank

Ques. ► 5

Monir is an education adult of the village. He teaches various topics to the farmers of the village in his leisure time. He discusses about the essential elements of the soil. He explains how plants grow up by absorbing the required nutrients and water from the soil through the roots. He also emphasises on the effectiveness of the structural elements of the soil.

- a. What is soil? 1
- b. How is mineral matter created? 2
- c. Which matter did Monir call as the soul of the soil? Describe. 3
- d. Explain what Monir said about the effectiveness of the matter. 4

Answer to the question no.5

- a. Soil is a natural substance and mixed material.
- b. The influence of natural forces like temperature, rainfall, wind blow, air and snowfall etc. has crushed parent rock silt and clay particles are mineral matters of soil.
- Super tips:** For answering Application and Higher Ability –
- c. Why is organic matter called the life of soil? Explain.
- d. Explain effectiveness of soil’s components.

Short-Answers Questions

Ques-1. What sort of crops can be cultivated in the sandy soil?

Ans: The sandy soil contains 70% or more sand particles. Crops like Indian millet, Italian millet, Melon, Patato, Water melon etc. can be grown in sandy soil.

Ques-2. What are the qualities of a seed?

Ans: Qualities of good seeds are –

- | | |
|-------------------------|-------------------------|
| 1. Purity of seed | 2. varietal purity |
| 3. Germination capacity | 4. vigorousness of seed |



6. Humidity of seed 6. seed dormancy
7. Healthy seed 8. Size and shape of seed
9. Seed colour.

Ques-3. How can the purity of a seed variety be preserved?

Ans: Purity of seed is lost, when any seed sample contains seeds of other varieties of the same crops. Breed or varietal purity is maintained if the seed is produced and processed in a controlled environment.

Knowledge-based questions with answers

Ques-1. In the presence of which element are the number and activities of earthworms increased in the soil?

Ans: The number and activities of earthworms in the soil is increased by the presence of organic matter.

Ques-2. What is called vigorous seed?

Ans: When the seedlings of the seeds are refreshing, living and healthy and can grow under adverse condition, the seeds are called high vigorous seeds.

Ques-3. Through which irrigation do weed seeds grow easily?

Ans: Through ground irrigation.

Ques-4. What is the pH of water that is helpful to produce natural food?

Ans: The pH of water ranging from 6.5-8.5 is helpful to produce natural food.

Ques-5. What problems can be created for water deficiency?

Ans: The production of animals and birds and their weight will decrease.

Ques-6. What is the primary symptom for identification of good seeds?

Ans: Normal bright colour is the primary symptom for identification of good seeds.

Ques-7. What is cereal seed?

Ans: Cereal seed is one in which cereal cotyledon is stored for future use of a seed.

Comprehension- with based questions answers

Ques-1. What do you know about how crops are cultivated in sandy soil.

Ans: Sandy soil contains more than 70% sand particles. Crops cannot grow suitably in sandy soil, where particles are coarse. When huge compost fertilizer, cow-dung and green manure are applied, sandy soil becomes fertile. As a result, crops can be cultivated in it.

Ques-2. Write down how does excessive depth of water influence fish culture.

Ans: For fish culture, the depth of water of pond range between 1.5-3 metre is suitable. But sunlight cannot reach in more than 2 meter deep water. Again, water may warm up if the water depth is too short. Both the conditions are harmful for fish.

Ques-3. The production of animal-birds is less due to water deficiency. Explain.

Ans: If sufficient amount of water is not given to the domestic animals-birds, there will be obstacle in taking other foods. The production of animals and birds and their weight will decrease. The birth of baby or laying of eggs may face danger for water deficiency during pregnancy period of domestic animals and birds.

Ques-4. Explain that fertilizer is the artificial source of nutrients for a plant.

Ans: Many of the nutrient elements decrease in the soil for more crop cultivation every year and for improved crop cultivation. Different types of fertilizers are used to produce crops in this land. The nutrient elements of fertilizers fulfil the demand of nutrient in the soil. So, it can be said that fertilizer is the artificial source of nutrients for a plant.

Ques-5. Explain the functions of organic matter.

Ans: Organic matter improves physical, chemical and biological properties of the soil. It protects soil erosion. It increases number of earthworms and their activities in soil. For this, fertility of soil is increased.



Ques-6. Why can tall trees not be kept on the edge of the pond?

Ans: Food production of pond depends on sunlight. Sunlight cannot reach into the pond water, if there are tall trees on the edge of the pond. So, trees on the edge of the pond should be cut down.

Ques-7. What do you mean by agronomical seed?

Ans: According to agronomical scientists, any part of plant that can produce new plant of self-variety, under favourable condition it is called an agronomical seed. These propagate through leaf, stem and root etc. such as sugarcane stem.

Chapter –Four (Agriculture and Climate)

■ Topic – Wise MCQs with Answers

Lesson-1: Weather and Climate

1. The daily condition of the atmosphere of a particular place is called – weather.
2. The average of weather of a duration of 25-30 years of a place is called – climate.
3. Selection of the type and variety of crop is influenced by – climate.
4. Quantity of vapour in the air is called – humidity.
5. Quantity of cloud in the sky is called – cloud cover.

Lesson-2: Importance of weather and climate in agriculture

1. Day to day agricultural work is influenced by – elements of weather.
2. Due to the influence of monsoonal climate huge rainfall occurs – during the rainy season.
3. Reason of destroying natural environment is – climate change.
4. Methane, nitrous oxide, CFC and carbon dioxide etc. are – green house gas.

Lesson-3: Weather and Climate of Bangladesh

1. Climate of Bangladesh is – temperate.
2. Depression is called in the sea – in summer.
3. The coldest month of Bangladesh is – January.
4. On the basis of durability and intensity of winter Bangladesh is divided into – 5 regions.
5. Amount of water vapour is less – in winter.
6. In Bangladesh the lowest rainfall occurs in – Lalpur of Nator.

Lesson-4: Agro-ecological zone based on soil, water and climate

1. Based on soil, water and climate whole Bangladesh is divided into – 30 Agro-Ecological Zones.
2. Agro-ecological zones of Bangladesh is divided into – 5 large areas.

Lesson-5: Flood, cyclone and drought prone areas in Bangladesh

1. Flash flood occurs – in the month of April and May.
2. If it does not rain continuously for 20 days or more in the dry season, it is called – drought.
3. Yield may be reduced due to drought – 15-90%.

Practice Part: Creative Essay Type Questions

■ 6 Creative Questions | 2 from Exercise | 1 by Master Trainers | 1 of Question Bank

◆ Questions with Answers of the Exercise

Ques. ► 1

Joyanta Sen cultivates different types of vegetables in his kitchen garden. His daughter, Koyel chose to sow some mustard seeds there in the month of Chaitra. Though the seeds germinated, the seedlings died after



Several days. But the vegetables such as snake gourd, pointed gourd that his father sowed grew well. When Koyel asked Joyonta Sen about the matter, he said that the knowledge of seasons about crop cultivation was very necessary.

- a. What is climate? 1
- b. Explain that land cultivation is dependent on rainfall. 2
- c. Describe the reason why Koyel's sown seedlings died. 3
- d. Analyse the opinion of Koyel's father about crop cultivation. 4

Answer to the question no.1

- a. The climate of a place is the average of weather of the duration of 25-30 years of that place.
- b. Rainfall is an important matter for land ploughing. If rainfall is more than the demand during the time of land plough then the land becomes muddy. Again, if flood occurs due to heavy downpour, land cannot be ploughed. On the other hand, rain is necessary for land preparation to cultivate some crops like Ropa-Amon.
- c. Koyel's father cultivates different types of vegetables in his homestead. Koyel also sowed mustard seeds in the month of Chaitra watching her father. Mustard is a winter seasoned crop. Less temperature is needed for this crop. As Koyel sowed seeds in the month of Chaitra, the seedlings of mustard did not get favourable weather for growing. As a result, the seedlings died after being germinated.
- d. Koyel chose to sow some mustard seeds in the month of Chaitra. Though the seeds were germinated, the seedlings died. When Koyel asks her father about this matter, he says that knowledge of seasons about crop cultivation is very necessary. Because, light, water etc. are required for every crop from its germination. The ratio of these water, light and air is different according to plants. The quantity of light, air and water is not equal in all seasons of a year in nature. Plants cannot live without proper light, air and water. So, it is necessary to know about the required quantity of light, air and water to produce a crop before its production. The season when that quantity of light, air and water are found, that crop should be cultivated in that season.

Ques.► 2

Sadia went to visit her maternal uncle's house. Which was located in an industrial area. The area was densely populated, and there were nothing else except high-rise buildings and vehicles. She began to feel uncomfortable in the extreme heat. She felt pain to breathe. Later her father discussed the matter with Mr. Anwar, an environmental expert who said that the unawareness of the inhabitants of that locality was responsible for the situation.

- a. When is the highest temperature of Bangladesh found? 1
- b. Explain that humidity is the cause of rainfall. 2
- c. Describe the reasons of Sadia's feeling of discomfort in her maternal uncle's house. 3
- d. Opine how Sadia's maternal uncle's area could be saved from environmental pollution. 4

Answer to the question no.2

- a. The highest temperature of Bangladesh occurs during April-August.
- b. Humidity is the quantity of vapour in the air. Cloud is created for the impact of water vapour in the air. Gradually, this cloud becomes heavy and drops into the soil as rain. Heavy downpour occurs if there is more humidity in the air. It can be said that this humidity is the reason of rainfall.
- c. The house of Sadia's maternal uncle is situated in a densely populated area. The area only contains buildings and vehicles. There are no trees. Carbon di-oxide is produced by the fuel of vehicles burning. This carbon di-oxide in the air increases temperature of the environment. There are huge quantities of carbon di-oxide, carbon monoxide, chlorofluoro carbon, methane gas in the air, as Sadia's uncle's house is situated in an industrial area. The amount of oxygen is decreasing due to this gas. As a result, Sadia felt uneasy in summer and pain in inhaling.
- d. Sadia's maternal uncle's house is situated in an industrial area. The quantity of trees is very few in that place as the place is densely populated and full of industries and mills. The place is full of high-rise



Buildings and cars. There is no such amenity of trees, which is needed to absorb the produced carbon oxide in that area. So, the amount of oxygen in the air is less. It rains less also. Warmth is felt more. Tree plantation in adequate quantity is needed to be ensured to solve this problem in that area. If there is not sufficient land for the plantation of trees, the roofs of houses and yards of mills and factories should be used for the plantation of trees. The trees would absorb additional carbon-di-oxide and increase the quantity of oxygen. Therefore, the said area would be free from pollution.

◆ **Additional Creative Questions with Answers to get ‘Common’ in the Exam**

Ques.► 3

Sifat’s grandfather’s house is in Dinajpur. He went to visit his maternal grandfather’s house in Chapainawabgonj during summer vacation and saw that it rained in many places and it did not rain in some places. He could know from his father that this condition occurs due to the demerits of weather and climate change and his father also told about some major characteristics of climate.

- a. What is wind speed? 1
- b. Explain the difference between humidity and atmospheric pressure. 2
- c. Mention the reason of difference of rain according to region in the passage. 3
- d. Explain the opinion of Sifat’s father about the demerits of climate change based on the text book. 4

Answer to the question no.3

- a. Wind velocity is the speed of the air blown in a place at a particular time.
- b. Humidity and atmospheric pressure are elements of weather. The quantity of vapour in the air is called humidity and the force that the air applies on the surface of the earth is called atmospheric pressure.
- c. In the passage, Sifat saw that it rained in many places. Again it did not rain at all in some place. When he was going to his maternal grandfather’s house from his paternal grandfather’s house a question arose in his mind to know the reason of it. The climate of Bangladesh is moderate and equable. The main characteristics of the climate of Bangladesh are proper rainfall, moderate winter and wet summer. There is not much vapour in the air flowing from the North and the North-West direction during winter. So, there is scarce rainfall. On the other hand, it rains heavily during summer as there is much vapour in the air flowing from the South and the South-West direction. So, there is so much difference of rainfall according to region in Bangladesh.
- d. The climate is the average condition of weather of a long duration of a place. Climate is slowly changing. It influences on the qualities of the soil and it influences on the varieties of crops and the selection of breeds of a particular place. In the passage, Sifat’s father informed him about the demerits of climate change. The ecological balance of natural environment is hampered for climate change. The rise of the sea level, the melting of ice in the polar regions and the mountainous glaciers and deforestation are being accelerated. As a result, disasters like heavy downpour, drought, salinity, flood, increase of severity and durability of floods, increase of extremity of cyclones, excessive heat and excessive cold have become frequent. As a result, agricultural production is disrupted. It becomes necessary to bring about a change in the method and management of agricultural production.

◆ **Question Bank**

Ques.► 5. Atahar wants to cultivate in a monsoonal basis in his fallow land. For this he takes advice from the agriculture officer of his area. The agriculture officer advises him to cultivate different vegetables and fruits in winter and summer seasons. He tells Atahar that agricultural production is decreasing day by day due to global climate change in the world. So, the role of weather and climate is very important in agricultural production.

- a. What are controlled by solar radiation? 1



b. How does atmospheric pressure influence climate change?

2

c. How do the elements of weather and climate influence on season based crop production?

3

d. "Crop production is decreasing day by day due to weather and climate change in the world"-give your opinion according to this statement of the agriculture officer in the passage.

4

Answer to the question no.5

a. Water vapourization, mobility of the air, creation of cloud.

b. The rise and fall of atmospheric pressure changes climate. There is difference of rainfall for this. When atmospheric pressure declines, the possibility of cyclones, cloud and storm etc. rises. Again, when atmospheric pressure rises, dry weather prevails.

Super tips: For answering Application and Higher Ability –

c. How do the elements of weather and climate influence on crop cultivation?-Describe.

d. Success in crop cultivation is decreasing day by day due to climate change-Explain.

◆ Knowledge-based questions with answers

Ques-1. What is weather forecast?

Ans: The future information of temperature, humidity, condition of the sky is said to be weather forecast.

Ques-2. What is rainfall?

Ans: Rainfall is the water drops from the atmosphere on the surface of the earth.

Ques-3. What is called green house?

Ans: In cold countries, costly vegetables, fruits etc. grow in glass-house. This is called green-house.

Ques-4. What is called North-Western storm?

Ans: The sudden storms and cyclones that occur from the North-Western direction during March and April are called North-Western storms.

Ques-5. What is sudden flood?

Ans: Sudden flood is caused suddenly for the border hilly swell and it lasts from few hours to several days.

Ques-6. Where does the lowest rainfall occur in Bangladesh?

Ans: At Lalpur in Natore.

Ques-7. What is the highest average temperature in Bangladesh?

Ans: 30°-41° Celsius.

Ques-8. How many regions is Bangladesh divided into according to the duration and intensity of coldness?

Ans: 5 regions.

Ques-9. How much is the annual average rainfall in Bangladesh?

Ans: 1,100-4,500 millimeter.

◆ Comprehension-based questions with answers

Ques-1. Write the differences between weather and climate.

Ans: The differences between weather and climate are –

Weather	Climate
1. The daily condition of the atmosphere of a particular place is called weather.	1. The average condition of atmosphere of a long time of a particular place is called climate.
2. Weather is rapidly changing.	2. Climate is slowly changing.
3. It does not influence much on the qualities of the soil.	3. It influences on the qualities of the soil.
4. It influences on the varieties of crops.	4. It influences on the varieties of crops and the

Ques-2. Daily based agricultural work is influenced by the elements of weather.-Explain.

Ans: Rainfall, temperature, wind speed and sunlight etc. are the elements of weather. The damage of crops is caused if any sudden change takes place in the elements of weather for any reason what so ever. At that time proper decision is required to be made considering the condition of the weather. If there is suitable weather for the production of crops, maximum production is harvested in that year.

Ques-3. Write the impact of climate on fish cultivation.

Ans: Abundant rainfall occurs in Bangladesh during the rainy season for the influence of the monsoonal climate. As a result, rivers, canals, ponds, ditches are filled with water. The growth and breeding of fishes increase in fresh water. When rivers, canals are dried up in winter, production of fish is decreased. In this way, monsoonal climate plays a vital role in the production of fish in Bangladesh.

Ques-4. Agricultural production is endangered due to global climate change-Explain.

Ans: Abnormal behaviour of the elements of weather and climate is being noticed. Disasters like downpour, drought, salinity, flood, excessive heat and excessive cold are being observed. Severity and durability of these kinds of disasters have also increased. As a result, agricultural production is disrupted. By this, agricultural production is being endangered.

Ques-5. Industrial revolution cause climate change”-Explain.

Ans: Mills and factories have been increased in number due to industrial revolution. Use of vehicles is also increased. As a result, the quantity of carbon di-oxide of air is increased. As forest lands are destroyed, absorption of carbon di-oxide has been decreased. Excessive carbon di-oxide has increased the heat of the atmosphere. As a result, weather and climate change have become abnormal.

Chapter -Five (Agricultural Production)

■Topic – Wise MCQs with Answers

Lesson-1 and 2: Introduction and economic importance of horticultural crops and Introduction and economic importance of field crops

1. The plants which are cultivated by man for their own need are called – crops.
2. Intensively cultivated small scale crops are – horticultural crops.
3. A person should eat vegetables and fruits – 45 g/day.
4. Chilli, onion, zinger and turmeric are – spice crops.
5. Pulse crops fulfil the demand of – protein.
6. Sugar is produced from – sugar and sugar beet.
7. Thread, cloth, rope, gunny bag and carpet are produced from – fiber.
8. On the basis of use field crops are divided into – 6 groups.

Lesson-3: Red amaranth (Lalsakh or red herb) cultivation method

1. For cultivating red amaranth best soils are – loamy and sandy loam soil.
2. Production of red amaranth is more – at the beginning of winter.
3. Seed rate of red amaranth is – 10 g/decimal.
4. Red amaranth can be harvested withing – 20-25 days of sowing.
5. Production of red amaranth is – 45-55 kg/decimal.

Lesson-4 and 5: Pepper cultivation method and Disease and insect pest control of pepper

1. Green pepper contains – vitamin C more.



1. The pepper variety used for salad is – capsicum.
3. Year round cultivable variety of pepper is – Bangla Lanka (BARI pepper -1).
4. The death of pepper plant by gradually drying from tip to bottom is called – die back.
5. Flowering starts in pepper plant after – 30-40 of sowing.
6. Green pepper requires time to mature – 25-30 days.
7. Amount of dry pepper obtained from per hectare land is – 1.5-2.5 ton.

Lesson-6 and 7: Tomato cultivation method and Disease and pest control of tomato

1. For cultivating tomato amount of seed required per hectare is – 200 g.
2. Reason of wilting disease of tomato is – bacteria.
3. Tomato starts ripening after – two months of sowing.
4. Production of tomato in winter season is – 250 kg/decimal.
5. Production of tomato in summer season is – 80-100 kg/decimal.

Lesson- 8, 9 and 10: Introduction of cultivable fishes in Bangladesh, Characteristics of cultivavble fishes in Importance of cultivable fishes

1. Fishes perform breathing – with the help of gill.
2. Fish is – vertebrate animal.
3. Fishing is the way of livelihood of – 12 million people of Bangladesh.
4. Shrimp contributes to the export earnings from fish sector is – 86%.

Lesson-11 and 12: Importance of pangas cultivation and preparation of a pond for cultivation; Releasing pangas fry or fingerling, nursing of fish during farming and fish collection

1. For removing predator fish of pond used chemical is – rotenone.
2. After applying rotenone the pond water cannot be used for – 7-10 days.
3. Amount of lime to be applied in fish culturing pond is – 1-2 kg.
4. Feed have to be provided in the pond at the rate of – 4-6% of fish weight/day.

Lesson-13 & 14: Introduction and characteristics of domestic animals; Introduction and Characteristics of domestic birds

1. Number of cows in Bangladesh is – 24 million.
2. Number of goat in Bangladesh is – 25 million.
3. Indigenous cow daily gives milk – average 1 liter.
4. Foreign improved variety cow daily gives milk – 15-20 liter.
5. Average number of eggs laid by indigenous chicken is – 45/year.
6. Number of eggs laid by indigenous duck is – 70/year.
7. Chicken stats laying egg – at the age of 5 months.

Lesson-15: The economic importance of livestock

1. The animal used for security in defence force as faithful pet animal is – dog.
2. For controlling riot animal used in security force is – horse.
3. Sheep wool – is used to make winter cloth.

Lesson-16 & 17: Introduction of pigeons and their rearing methods & habitat and food management of a pigeon

1. Time required for hatching pigeon egg is – 18 days.
2. Pairs of babies obtained from pigeon is – 7-8 per year.
3. Babies of pigeon become edible – within 3-4 weeks.



4. Feather of pigeon grows – after 28 days of birth.

Practice Part: Creative Essay Type Questions

■ **6 Creative Questions** | 2 from Exercise | 2 by Master Trainers | 1 of Question Bank

◆ **Questions with Answers of the Exercise**

Ques. ► 1

Rowsan Ara decided to cultivate vegetables in the vacant land adjacent to her house, and prepared a plot of 3 decimal for tomato for cultivation. She had a bumper yield of tomato for improved variety, use of fertilizer in right doses and proper care and nursing. She met her family needs and sold a portion in the market. Being inspired by the initiative of Rowsan Ara, many in the neighbourhood started kitchen garden in their houses.

- a. What is horticultural crop? 1
- b. Explain why sand and ash are mixed up with the seeds of red amaranth to sow seed. 2
- c. Determine how much cow dung Rowsan Ara used in her 3 decimal land for tomato cultivation. 3
- d. Analyse the impact of Rowsan Ara's initiative in meeting family's nutrition demand. 4

Answer to the question no.1

- a. Horticultural crops are the crops which are cultivated intensively in small scale.
- b. There may be an equal distribution of seeds everywhere, if the seeds of red amaranth are mixed with ash and sand before sowing. As a result, seeds don't tend to be gathered in a place. Every seed gets equal nutrition. That is why, at the time of sowing by this method, the seeds of red amaranth are mixed with ash or sand.
- c. For cultivating tomato, 30-50 Kg of cow-dung is required for per decimal land. The land area of Rowsan Ara is 3 decimal. So, she required $(30 \times 3 \text{ to } 50 \times 3) = 90-150$ Kg of cow-dung for applying in her land.
- d. Rowsan Ara decided to cultivate vegetables in the fallow land beside her home. She prepared a 3-decimal plot for cultivating tomato.
Tomato is a winter crop but it is cultivable in summer too. It is a vegetable containing vitamin A, B & C. Green tomatoes are popular as vegetables and ripe tomatoes as salad. Sauce that is produced by processing of ripe tomatoes is very delicious.
As per World Health Organization, a person should eat at least 450 gram vegetables every day. The entrepreneurship of Rowsan Ara met the demand of vegetables, and vitamin A, B and C in her family. The money that is earned by Rowsan Ara by selling additional tomatoes is expected to buy other nutritious food for the family.

Ques. ► 2

Monoara Begum is to face difficulty to maintain her family. She has a fallow water body and a piece of open high land in her homestead. She has decided to cultivate pungas in the fallow water body on the advice of her neighbour. Next time she has also planned to use the high land for cultivation.

- a. What is cultivable fish? 1
- b. Explain one of the economic importance of fish cultivation. 2
- c. Explain why Monoara Begum chose to cultivate pungas. 3
- d. Analyse how Monoara Begum's future plan will help to increase her family's income. 4

Answer to the question no.2



a. The fishes whose fry are easily available, grow quickly, have demand and fair price in market, nutritious and tasty to eat cultivable fishes.

b. The salient economic goal of fish cultivation is to earn foreign currency by exporting abroad. Fish resources of Bangladesh earn huge foreign currency. 86% of it comes from shrimps. By increasing fish cultivation, we can increase this income.

c. Monoara decided to cultivate pungas in her fallow pond by the advice of her neighbour. She selected pungas for cultivation because pungas is cultivable in any closed pond. The fry it is available. Its capacity to resist disease is high. It is possible to market a live in little water. There is no possibility to damage fish by being rotten. Besides, pungas is a tasty and popular fish. There is an ample demand of it in the market.

d. Monoara Begum was facing problem to maintain the family with the income of her husband. She has a fallow pond and an open high land in her homestead. As per the advice of her neighbour, she decided to cultivate pungas in the pond. By this, she became financially benefited. After that, she brings her land under cultivation. Her open high land is appropriate for horticultural crops. There is demand of horticultural crops in home and abroad. She may be benefited by cultivating in appropriate and modern method. Intensive care is required for horticultural crops. Thus, she will get the chance to work over the year. She will be more benefited by processing these crops. Thus, Monoara may increase family income by cultivating on her high land.

◆ Additional Creative Questions with Answers to get ‘Common’ in the Exam Ques. ► 3

There is 20 decimal of unused highland beside the house of Abu Mia and another 50 decimal land in the field. He meets the demand of food crops from the field. Abu Mia decided to use land beside his home appropriately.

- How many classes are the crops divided into according to agricultural science? 1
- Explain why the economic importance of horticultural crops is more. 2
- What kind of steps should Abu Mia take for ensuring appropriate use of land beside his house? Describe. 3
- Evaluate the characteristics of cultivation of Abu Mia’s 50 decimals of land. 4

Answer to the question no.3

a. According to agricultural science, crops are divided into two classes.

b. There is an ample scope to create job over the year from production to marketing of horticultural crops by applying capital, labour technology in every stage. The importance of horticultural crops is higher than crops in the field because more value is added by processing this crops.

c. Horticultural crops may be cultivated in 20 decimal unused land beside Abu Mia’s house. High land near to his home is suitable for cultivating horticultural crops like fruit trees, flowers and vegetables. For meeting nutrition demand of his family from this land, Abu Mia can cultivate fruit trees like mango, jack-fruit, and vegetables like potato, brinjal in his land. He may cultivate flowers for meeting thirst for beauty along with cultivating onion-pepper for meeting the demand of spice.

d. Abu Mia meets the demand for his family from cultivating 50 decimal field level land. The land near to home is normally high in nature. Field level land is normally low in nature and comparatively big. Since field does not need intensive cultivation like horticultural crops, rice, wheat, maize etc. may be cultivated for meeting the scarcity of staple food. Besides, lentil, oil, fibre crop, sugar cane and animal food may be produced.

Ques. ► 4

Tanu planted Altapati variety of red amaranth in 5 decimal land of her yard by setting up fence around it. She plans to meet the family demands through cultivation and to earn extra earnings by selling the crops.



After 10-12 days, Tanu noticed that the seedling are not growing properly. She discussed about it with agriculture officer who asvised her to apply fertilizer.

- a. What is the colour of the variety of Altapati and leaf stem? 1
- b. Explain the necessity of making the soil loose for red amaranth. 2
- c. How much fertilizer will Tanu apply in the field according to the advice of agriculture officer? Describe. 3
- d. Evaluate the possibility of cultivating red amaranth in Tanu's land. 4

Answer to the question no.4

- a. The colour of Altapati variety's leaf and stem is vermilion red.
- b. The land is prepared for planting red amaranth by loosening the soil by ploughing and laddering 4-5 times. Its seed is very small in size. So, the problems occur in growing seedlings if the land is not prepared loosely.
- c. After 7 days of growing of red amaranth seedlings, urea should be applied at the rate of 400 gram per decimal. Tanu will apply 400 gram fertilizer per decimal land or 2 kg fertilizer in 5 decimal land.
- d. The place of building home is normally high land.Tanu decided to cultivate red amaranth in open southern place of his yard. In summer season,there needs a high land for cultivating red amaranth. In rainy season,there needs a 30 cm wide narrow drains between two beds. Since Tanu's land is in high place, there is an opportunity to take care of the same intensively.
Thus according to the plan of Tanu, this place is suitable for cultivating red amaranth.

◆ Question Bank

Ques.► 5. Piya sowed red amaranth seeds in 2 decimal land beside her home. A few days later, she noticed that the seedlings were not growing. Under this circumstance, she applied fertilizer appropriately as per the advice of agriculture officer. But after a day, she collected all the red amaranth. She got a poor yield of only 60 kg of red amaranth and. Again, she went to the agriculture officer to find out the cause behind the low yield.

- a. Write the names of two improved variety of red amaranth. 1
- b. Under which method is it convenient to take care after sowing the seeds of red amaranth, and why? 2
- c. How much fertilizer did the agriculture officer advise Piya to apply to her land? 3
- d. Analyze the reason that the agriculture officer gave Piya for the low yield in her land. 4

Answer to the question no.5

- a. Altapati and BARI Laisakh-1
- b. The seeds of red amaranth are sown by broadcasting and in lines. If sown in lines with the help of stick making 1.5-2.0 cm deep line having 20 cm apart, then seed broadcast in lines and the soil should be levelled. So, sowing the seeds of red amaranth in line is convenient for taking care.

Super tips: For answering Application and Higher Ability –

- c. Describe the method of applying fertilizer in the production of red amaranth.
- d. Explain the rules of fertilizer applying and harvesting the red amaranth.

◆ Knowledge-based questions with answers

Ques-1.Why are field crops not cultivated intensively?

Ans: Field crops are not decomposed rapidly like horticulture crops.This is why, field crops are not cultivated intensively.

Ques-2.What is capsicum?

Ans: Capsicum is a variety of pepper which can be used as salad.

 **Ques-3. What symptom is seen when the pepper plant of tub requires fertilizer?**

Ans: When the soil of tubs containing pepper plants become white, it requires fertilizer.

Ques-4. What causes damping off disease?

Ans: Damping off is a disease caused by fungus.

Ques-5. What does spread out the disease of wrinkling leave of plant?

Ans: White fly insect spreads out the wrinkling leave disease.

Ques-6. What is the treatment of damping off disease of tomato?

Ans: Attacked place should be kept wet with Redomil gold.

Ques-7. What is Holstain Frisian?

Ans: Holstain Frisian is an improved variety of a cow that produces milk.

◆ Comprehension-based questions with answers

Ques-1. Explain the nutritional value of fish.

Ans: Fish is a source of protein. Protein is essential for the development of our merit. Oil of fish our is beneficial for body. Small fish has a lot of vitamin A. Vitamin A prevents night blindness disease. The skeleton of fishes contains a lot of calcium and phosphorus that help to build the bone of the body.

Ques-2. 'Horticultural crops are as nutritious as inevitably important in the family'. Explain.

Ans: By cultivating horticultural crops, we can easily meet the demand of nutrition of our family. Fresh and juicy horticultural crops supply vitamins and minerals to the members of the family. It is possible to earn money by selling additional fruits from fruit-bearing trees of mango, black-berry, jack-fruit etc. and it is also used to make furniture and houses. A lot of firewoods are collected by pruning off breaches of growing trees.

Ques-3. Explain the method of controlling the Damping off disease of pepper plants.

Ans: Damping off disease may occur when a pepper plant is in seedling stage. To control this disease, one kg seeds need to be mixed with 03 gm Provex for treatment of the seeds. The seed-bed should be kept dry.

Ques-4. Why does the soil of seed-bed need to be soaked in water before uprooting seedlings?

Ans: When the seedlings become 30-35 days old, they become suitable for plantation. The seedlings need to be uprooted from the seed-bed with care so that the roots of the seedlings be not may damaged. So, soil of the seed-bed needs to be soaked in water before uprooting the seedlings.

Ques-5. People are becoming dull headed due to deficiency of protein – Explain.

Ans: Fish contains protein. Protein is essential for the development of our merit. An adult requires 80gm.protein every day. The quantity of fish is decreasing as the rivers, canals, and marshes are filled up. 21 gm.protein is eaten on an average per head. Deficiency of nutrition is making them merit-less.

Ques-6. Classify horticultural crops.

Ans: Horticultural crops are classified into four groups. These are –

1. Fruit: Mango, Litchi, Guava etc.
2. Vegetables: Brinjal, Gourd, Red amaranth etc.
3. Spice: Pepper, Onion, Ginger etc.
4. Flower: Marigold, China Rose, Rose etc.

Ques-7. What do the domestic animals and birds do for us besides giving egg, meat, milk etc. Explain.

Ans: Domestic animals refer to cow, buffalo, duck, hen, dog etc. Cows and buffaloes are used for ploughing, drawing hand-mill and transportation. They keep the environment clean by eating weeds of land,



By-product of crops, and wastage of kitchen. Ducks and hens keep the balance of nature by eating insects and fallow crops. Winter cloths are prepared by the wool of sheep. The dog is used for defense. Camel, horse, ass carry the load. Stools of all domestic animals and birds are used as organic fertilizer.

Ques-8. Write down the demerits of rearing pigeon in closed method.

Ans: Deficit of light and air may occur in a closed method. Unhygienic environment for pigeon is created in the cell by entering rain water. Besides, pigeons cannot fly in the cage. So, rearing pigeon in closed method is not congenial.

Chapter –Six (Afforestation)

■Topic – Wise MCQs with Answers

Lesson-1: Natural, agricultural and social forests

1. Area covered by these is called – forest.
2. On the basis of origin forest is of – 3 types.
3. On the basis of expansion natural forest is of – 3 types.
4. Self generated forest in natural is – natural forest.
5. The forest which is grown in a planned way to meet the demand of mankind is called – social forest.
6. Production of diversified crops on the same land is called – agroforestry.

Lesson-2: Concept and importance of different natural forests

1. Hilly forest – is more in area among the forest areas of Bangladesh.
2. Main plant of plain land is – sal.
3. The forest continuously inundated by sea water is called – mangrove forest.
4. Main plant of mangrove forest is – Sundari.
5. Total area of Sundarbans is – 6000 sq. Km.

Lesson-3: Social Forest and Afforestation

1. Man made coastal kaora forest is – social forest.
2. Social forestry is done by the side of –road, railway and dam.
3. Tree is cultivated with field crop on the same land in the system of tree and field crop cultivation – integratedly.

Lesson-5: Difference between agricultural and social afforestation

1. In social forestry directly associated people are – rural people.
2. Only wood and fruit producing plant can be produced in – social forestry.
3. Scope of using a land more than once is less in – social forestry.

Lesson-6: Role of forest in maintaining ecological balance

1. To maintain ecological balance it is necessary for a country to have – 25% forest land of the total land area.
2. At present forest area of Bangladesh is – 17% of the total land area.
3. Environment is protected from soil erosion and landslide by – forest.

Lesson-7: Rules of plantation in the homestead areas

1. Trees which have to be planted at the east and south part of the house are – small and medium type plants.
2. Trees which have to be planted at the south-west and west part of the house are – hard and deciduous plant.
3. Trees which can be planted at the north-west, north and north-east part of the house are – large trees.



Lesson-8: Planting trees at the homestead nursing

1. In case of planting trees in household yard size of the pit would be – $(50 \times 50 \times 50) \text{ cm}^3$.
2. Fertilizer mixed soil have to be kept in pit for at least – one month.
3. For holding soil moisture spreading straw at the base of plant is called – mulching.
4. If the growth of seedling is not good, fertilizer have to be applied after – 3-4 months.

Lesson-9: Planting on The House Roof, in a Tub and in School and Their Nursing

1. Tub or roof-top plants have to be watered – before and after 1 hour of liquid fertilizer application.
2. For preparing permanent bed the ration of loamy soil and cowdung would be – 2:1.
3. In tub or roof-top tree liquid fertilizer have to be applied – with an interval of 15 days.

Practice Part: Creative Essay Type Questions

■6 Creative Questions| 2 from Exercise| 2 by Master Trainers| 1 of Question Bank

◆Questions with Answers of the Exercise

Ques.►1. Rahima Begum has planted trees of different species such as coconut tree, sishu tree, guava tree, black-berry tree in her yard by following the rules of tree plantation. And thus the daily demand of the family is met up and a scope of extra income is created.

- a. What is forest? 1
- b. Explain an importance of social forest. 2
- c. In which direction has Rahima Begum planted the trees mentioned in the passage? Explain. 3
- d. Analyze how Rahima Begum's initiative has brought about prosperity. 4

Answer to the question no.1

a. A large area covered with trees is called a forest.

b. Social forest creates employment for the people of village. A huge manpower is required in the forestation programme taken by government. This manpower creates social forests and preserves them. Thus, the unemployment problem of the village is reduced.

c. The trees mentioned in the passage are coconut, sishu, guava, black-berry etc. According to the rules of plantation in different directions in homestead, Rahima planted coconut, sishu, guava to the south and to the east of her house. In this, sufficient light and air enter the house and the trees get light and air too. Rahima Begum can plant sishu tree to the south and west direction. Since black-berry is a large tree, it can be planted to the north direction of the house.

d. Following the rules of plantation in different directions in homestead, Rahima Begum proved her intelligence. Every tree needs sufficient sunlight and air for growing up. These needs are different for different trees. Rahima Begum planted blackberry, coconut, guava and sishu trees to the south and the east sides of her house. Since sufficient light can enter through the south and the east sides, by planting the trees in these directions, the trees get sufficient light and air. So, there is enough facility of ventilation into the house for these trees of small and medium sized.

Sishu is a hard leaf shedding tree. If it is planted to the south and the west directions, it will get sufficient sunlight and air. Besides, these trees shed their leaves in winter. So, sunlight can easily enter the house. Moreover these large trees save our houses from north westers.

Black-berry is a big tree. Mrs. Rahima planted it to the north, north-west or north-east side. As a result, it got sufficient light and air and provided maximum fruit. Thus, she meets up the demand of the family and scope of extra income is created.

Ques. ► 2

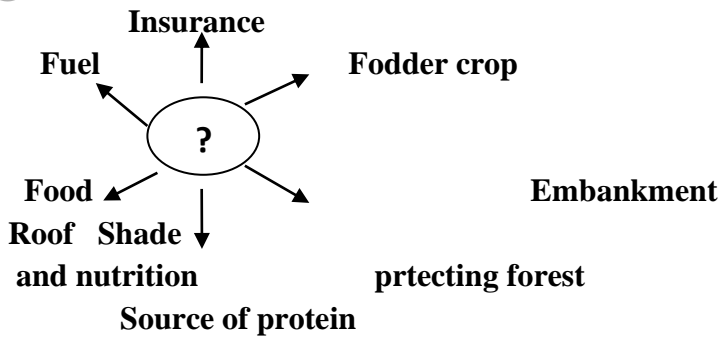


Fig-A

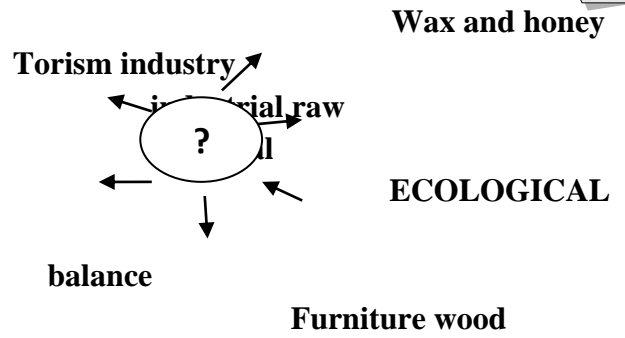


Fig-B

- What is a hilly forest? 1
- Which forest is called Sal forest? Explain. 2
- Which forest of the above picture is physiographically different? Explain reasons. 3
- Which forest of the above picture is important for social afforestation? Analyse reasons.

Answer to the question no.2

a. The forest that is created naturally in the east and south-east hilly area is called hilly forest.

b. The forest situated in greater Dhaka, Mymensing, Dinajpur, Rajshahi and Comilla is known as sal forest. Because the chief tree of this forest is sal.

c. The forest ‘B’ in the picture above is physiographically different. The produced commodities from this forest indicates that it is a coastal forest land. The soils of the coastal forest land are frequently submerged with tidal water. The land of this forest is salty. This is also known as Mangrove forest. Different trees like sundari, gaoa, posur etc. are grown in this salti land. In order to plant them in different kinds of lands, these trees have a special kind of adaptable power. From the discussion above, it can be said that the physiography of the forest indicated as ‘B’ is different.

d. The produced commodities of the forest ‘A’ in the picture above indicates that it is very important for social afforestation. Because, it is a plain land forest. This forest protects the sides of roads of plain land and the embankments of the rivers. This also creates a cool, shadowy and charming environment in villages. It provides food and nutrition for the people of villages. It also provides wood, fire wood and raw materials for industry as well. It creates the scope of employments for the people of villages. It ensures the proper usage of the deserted lands. It brings financial prosperity including poverty eradication.

On the other hand, the produced commodities of the forest ‘B’ in the above picture indicates that it is a coastal forest. Though it is possible to develop this forest socially, but it only provides wood, fuel and raw materials for industry. The trees grown in this forest cannot provide any edible fruit for man. As the soil of this forest is of a different kind, only special kinds of trees grow in this forest. That is why a proper usage of the deserted land of this forest is not possible. So, the forest in the picture ‘A’ is more important for social afforestation.

◆ Additional Creative Questions with Answers to get ‘Common’ in the Exam

Ques. ► 3. Titly went to her grandfather’s house in Bagerhat on summer holiday. Seeing Sundarbans there, she thought that this was the green wall of Bangladesh. Many questions were coming out frequently to her mind, how this vast forest had been created? Why is it not in Dhaka?

- What is called natural forest? 1
- Why is Sundarbans called natural forest? 2
- The mentioned forest in the passage has kept the southern part of our country protected-Explain. 3
- Compare the hilly and plain land forests with this forest mentioned in the passage. 4



Answer to the question no.3

- a.** A natural forest is a widespread area created automatically in nature. For example – Sundarbans.
- b.** The features of the natural forest are-this forest is widespread area created automatically in nature, the trees of this forest grow and survive without any direct help of human beings. Different kinds of trees grow and different kinds of animals live in a natural forest. The Sundarbans is of the same features. So, the Sundarbans is called a natural forest.
- c.** The Sundarbans is located and spread over the vast area of south zones of coastal region near the sea of Bangladesh. As the south zones of Khulna, Bagerhat, Satkhira etc.districts are surrounded by the Sundarbans, these regions are less effected by the natural calamities soared from the Bay of Bengal. There would be possibilities of getting harmed by sea storm, cyclone etc.if the Sundarbans was not created naturally.
- d.** The comparison of other forests with the Sundarbans is given below:

Hilly forest	Plain land forest	Sundarbans
Hilly forest is situated at the east and south-east region of Bangladesh.	Plain land forest is located in greater Dhaka, Mymensing, Dinajpur, Rajshahi and Comilla districts	Sundarban is located in the coastal areas of Khulna, Bagerhat and Satkhira
Trees like garjan, chapalies, telsur, silkari, gamar etc. grow in this forest.	Sal is the chief tree of this forest. In addition, trees like ganari, koroï, rain tree, jarul etc. grow in this forest.	Sundari is the main tree of this forest. Moreover, posur, gaoa, kaora, goran, golpata etc. are the remarkable trees of this forest.

Hilly forest	Plain land forest	Sundarbans
Elephants, monkeys, boars, bears, wild hens, hanumana, python, snakes etc. live in this forest.	Wolves, monkeys, snakes, doves, deels, shaliks etc. live in this forest.	Royal Bengal tiger, spotted deer, leopard, wild boars, monkeys, crocodile, garials, python and birds and insects of different species live in this forest.

Ques.► 4.At the time of going to pabna from Natore, Latif saw many trees such as raintree, koroï, akasmoni on the both sides of the road. He became charmed at the sight. Returning home, he encouraged people to plant trees on the both sides of the roads.

- a. How many types of forests are there? 1
- b. Why is the Sundarbans called Mangrove forest? 2
- c. How will Latif create social forest in this region? 3
- d. It is possible to make the best use of land by social afforestation- Explain. 4

Answer to the question no.4

- a.** On the basis of origin forests are of three types.
- b.** The coastal forest of Khulna, Satkhira, Bagerhat is known as Sundarbans. It is the world’s largest mangrove forest. Sundari is the main tree of this forest. As the forest is frequently submerged with tidal water, it is called Mangrove forest.
- c.** Latif, by encouraging the people of his region,can plant the seeds and plants of raintree,karoi,akashmoni,mahogony,eucalyptus etc. trees on streets,by the sides of embankments and railways,in school field,in the deserted lands,on the pond and river banks of his region. Besides, he can also establish a social forest by planting trees and making a garden in the surrounding areas of his house. Thus, Latif can create a social forest.
- d.** By cultivating agricultural crops and forest trees in the same time, farmers can make the right use of land. As a result, they will get more production and will be economically developed. Rural people participate directly in social afforestation.



The best use of lands can be ensured through social afforestation by planting trees in homesteads, on pond banks, by the sides of roads and embankment, in the yards of different government and non government organizations and in the fallow and deserted lands.

◆ Question Bank

Ques.► 5. Shajib along with his maternal uncle went to visit the forest located in the district of south zone, Khulna. He was charmed by seeing the very charming natural beauty of the forest. His uncle said to him, "There is the most famous animal of the world in this forest. But that cannot be seen very often." Shajib's uncle added, "Sundari trees grow in this forest." According to his opinion, the economic importance of this forest is a lot. The raw materials for making furnitures are collected from here.

- | | |
|--|---|
| a. Which animal is the main attraction of the Sundarbans? | 1 |
| b. Why is Sundarbans called the largest coastal natural forest of the world? | 2 |
| c. Describe the natural characteristics of the forest that Sojib went to visit. | 3 |
| d. Why the forest mentioned in the passage above has an importance in preserving ecological balance-discuss. | 4 |

Answer to the question no.5

- a. Royal Bengal Tiger.
 b. The natural beauty of the Sundarbans is incomparable. This forest has been created naturally in the coastal area. This forest is frequently submerged with tidal water. The total area of the forest is 6 thousand square kilometres.

So, the Sundarbans is called the largest coastal natural forest of the world.

Super tips: For answering Application and Higher Ability –

- c. Describe the natural characteristics of Sundarbans.
 d. Explain the importance of Sundarbans to maintain the ecological balance.

◆ Knowledge-based questions with answers

Ques-1. What is called forest environment?

Ans: A vast area which is covered with creepers, shrubs and trees both small and big, and a habitat for birds, animals and insect-pests is called forest environment.

Ques-2. What percentage of the total area of land is essential for a country to have forest land?

Ans: 25%

Ques-3. What percentage of the total area of land does Bangladesh have forest land now?

Ans: 17%

Ques-4. How many types of natural are there according to expansion?

Ans: Three types.

Ques-5. What is called coastal forest?

Ans : The forest grown naturally in the coastal area is called coastal forest.

◆ Comprehension-based questions with answers

Ques-1. Describe the resources of the hilly forests in Bangladesh.

Ans: Trees like gajari, koroi, rain tree, jarul etc. grow in hilly forest of Bangladesh. We get high quality wood from these valuable trees. Different types of bamboos are also grown in the hilly forests. Many wild animals such as elephants, monkeys, boars, bears, wild hens, hanumans, pythons, snakes etc. live in this forest

Ques-2. Through social afforestation, proper utilization of the deserted land is ensured –Explain.

Ans: Afforestation is done socially on two sides of roads in villages and towns, on the banks of canals and rivers, in the lands beside the railways.



Usually the lands of these areas are not cultivated. As a result of a afforestation in these deserted lands, fruits and wood are produced. Besides, a social forest creates a shadowy pleasant environment. It also provides fire wood and wood for raw materials for industries.

Ques-3. Write down the differences between agricultural and social afforestation.

Ans:

Agricultural afforestation	Social afforestation
1. Crops, trees, fish and food for animals and birds are produced.	1. Only wood and fruits are produced.
2. Crops are produced gradually using the same field again and again. As a result, more crops are obtained.	2. The scope of using the same field again and again is less.
3. It is done in crop fields, home yards, hilly fallow land and coastal areas.	3. Trees are planted on roads, highways, embankments and railways.