Bangladesh Power Development Board

Assistant Engineer (Civil)-2018

Exam Taker- Buet

Total- 100 marks (1.5 hr)

Non-Departmental: 40 marks

General- 40 marks (80 mcq x 0.5 mark)

Departmental: 60 marks

Q.1 Draw Flow diagram of Water distribution system

Q.2 Calculate Cement Sand & Aggregate for M20 (1:1.5:3) ratio for 100 cubic ft concrete

Q.3 Draw Activated Sludge Process Flow Diagram

Q.4 A retaining wall of 8 ft height ,Unit weight of soil 100 #/ft^3 and Φ=20, C=0 . Find the active earth pressure & location.

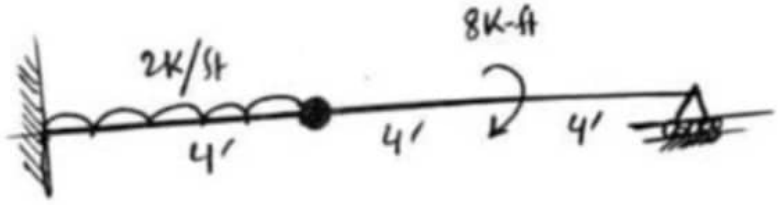
Q.5 What is BOD and COD, which one is greater and why?

Q.6 Draw Marshall Mix Design Curve for Bituminous Materials?

Q.7 A reinforced concrete beam 12" wide has an effective depth of 18". It is reinforced with 4 #10 bars for tension. f'c = 3ksi and fy = 60ksi. Find the moment capacity of the beam.

Q.8. Calculate the Angularity number for relative density of the aggregate 2.5, Mass of water required to fill the cylinder 2000 gm, Mass of cylinder filled with compacted aggregate 5000 gm and mass of cylinder 1000 gm..

Q.9. Draw SFD,BMD



Q.10. Find maximum shear stress for a Beam of 10' with uniformly distributed load of 1k/ft. Beam section is 10"x10"

Q.11. Find the Fineness Modulus for the following sieves.

Sieve	% retained
4	0
8	4
16	10
30	20
40	10
50	25
100	10
200	2
PAN	1

Q.12. BOD_5 at 20 degree is 200 mg/L , K=0.18 , Find BOD_{10} at the same temperature

Q.13. A wide channel S=0.0025 , discharge of $3m^2/s$, Compute normal depth & Velocity if mannings n=0.020