

## Coal Power Generation Company Bangladesh Limited (CPGCBL 2022)

1. Gap fillings
  - => Amount of energy imparted to a soil mass when it is compacted in the mould in the laboratory while performing a standard proctor test is .....
  - => The name of the clay mineral which gives maximum swelling is .....
  - => Degree of saturation of fully saturated soil .....
  - => weight of the hammer in the Standard Penetration Test ( SPT ) is .....
2. A sample of wastewater has been diluted 50 times (i.e. dilution factor = 50) for the BOD test. The Initial DO of the diluted sample is 7 mg/l, after 5 days incubation period the DO is 3.1 mg/l. If the BOD removal constant rate is 0.22/d (base e). Calculate the BOD of the sample
3. Water flows in a wide channel with a longitudinal slope of 0.0018, manning's roughness coefficient is 0.020. compute the normal depth if the velocity of flow is 1.6 m/sec.
4. A designer designed a 6" one-way slab with 60-grade reinforcement. He used the #4 bar as the main reinforcement and provide spacing at 5 in c/c. A second designer designs the slab with 500W reinforcement instead of 60-grade reinforcement and used a 12 mm bar as the main rebar instead of a #4 bar. What would be the spacing of the slab by the second designer?
5. Water flows through a pipe from A to B at 80 l/sec. the cross-sectional area of the pipe at A and B is 20cm<sup>2</sup> and 80cm<sup>2</sup> respectively. The height of point B from A is 0.5m. and head loss is 0.05m. if the pressure at point A is 50pa. find out the pressure at point B.
6. A fresh concrete mix of 100 ft. is mixed in 1:2.5:4 ratios. Find out the volume of ingredients used (by volume)
7. Find FM and percentage of silt & clay.
8. Standard value of pH, BOD<sub>5</sub>, Arsenic, and total Coliform according to ECR'97.
9. Draw SFD and BMD of the following beam

