

DEPARTMENT OF CIVIL ENGINEERING
GOVERNMENT POLYTECHNIC, BALASORE
SUBJECT- WATER SUPPLY AND WASTE WATER ENGINEERING
SEMESTER - 5th SEM (CIVIL ENGG.)
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QUESTION BANK

SHORT QUESTIONS:-

1. What are the most common impurities mostly found in the natural water?
2. What is yield of a well
3. What do you mean by disinfection?
4. What is self cleaning velocity?
5. What is sewage?
6. Define Sewerage.
7. Why is softening of water is necessary?
8. What is design period in designing water supply scheme?
9. What do you mean by "Infiltration gallery"?
10. What is the necessity of digestion?
11. Differentiate between grit chamber and detritus tank.
12. Explain the principle and operation of an oxidation pond.
13. What do you mean by cone of depression?
14. What do you mean by BOD?
15. Define gravity system of distribution of water.
16. Explain the term per capita demand.
17. Define sewage sickness.
18. Define plain sedimentation.
19. Define flocculation.
20. Define detention period of a settling tank.
21. What do you mean by unconfined aquifer?
22. What are the different types of sewage system?
23. What do you mean by hardness of water?
24. What is a vent pipe?
25. Mention the types of distribution system in the pipeline.
26. Define specific yield.
27. What is Sewage farming?
28. Define Inverted siphon.
29. Explain the term C. O. D.
30. Define coagulation.
31. Explain the term "total hardness" in water.
32. What is per capita demand?

LONG QUESTIONS:-

1. What is per capita demand? What is the purpose of water supply scheme?
2. What is confined and unconfined aquifer? Explain with the help of a neat sketch.
3. Describe in details the working of slow sand filter.
4. Describe in details about rapid sand filter.

5. Explain with neat sketch the working operation of a trickling filter.
6. Discuss roof top rain water harvesting. What are the advantages from this technique?
7. Calculate the flow velocity and the discharge through a sewer of 1m laid at a gradient 1 in 500. Assume sewer running full, use Manning's formula with $N=0.012$.
8. Describe the various methods of water distribution system.
9. Draw and describe the terms of coagulation tank.
10. Describe the process of primary treatment of sewage with help of flow diagram.
11. In a recuperation test, the following results are obtained
 Initial depression head=10m
 Final depression head=6m
 Time of recuperation=6hrs
 Dia. Of well=4m
 Calculate the specific capacity of well and yield under the head of 3m.
12. Write the physical tests of water briefly.
13. Explain breakpoint chlorination.
14. Determine the velocity of flow in a circular sewer of dia. 150cm. Laid on slope of 1 in 500 while running full by using Chezy's formula. The value of $C=70$.
15. What are the preventive measures to avoid sewage sickness?
16. Write down briefly about various types of sewer appurtenances.
17. Write notes on manhole and oxidation pond.
18. Describe briefly various types of water demand.
19. Describe sludge digestion tank.
20. Write down the preventive measures to control wastage of water. Write down the maintenance and requirement of distribution system.
21. The population of a town as obtained from census report is as follows

Year	population in thousand
1980	22.6
1990	27.8
2000	33.6
2010	39.8

 Estimate the population of the town by arithmetical and geometrical method for 2030.
22. Draw and describe the terms of coagulant tank.
23. Describe the various methods of water distribution system.
24. Draw the diagram of treatment system and describe each unit.
25. Draw the flow diagram of secondary treatment of sewage and describe each unit.
26. Define sewage farming and the condition of sewage farming. What are the preventive measures to avoid sewage sickness?
27. Define Storm regulator and inverted siphon.
28. Differentiate between separate and combined sewerage system.
29. Plumbing arrangement of single and multi storied building.
30. Setting out sewer alignment.