

EN8592 WASTEWATER ENGINEERING

Important 13 Mark Questions

Part-B

1. Examine the components and the operational principles of activated sludge process with neat sketch. Write its advantages and disadvantages.
2. Label with neat flow diagram and explain ASP in treating waste water. Discuss the various design parameters involved in it.
3. Summarize in detail with neat sketches about the trickling filters.
4. Write in detail about the UASB reactor with neat sketch.
5. Write in detail about the effluent standards.
6. Illustrate about the sewage farming methods.
7. Explain briefly about the methods of sewage disposal.
8. Name the various actions involved in the self-purification process of a stream and explain them briefly.
9. Explain about the methods of sludge digestion process.
10. Explain about the methods of sludge disposal.
11. Write in detail about the necessity of sludge digestion and also factors affecting sludge digestion.
12. Explain about the high rate digester of sludge.
13. Describe about the stages in sludge digestion process.
14. Explain about the standard rate digester of sludge.
15. Write in detail about the sludge conditioning and sludge dewatering methods.
16. Describe the mechanism of biogas recovery from sludge.
17. Calculate the combined flow discharge of sewage for the given data. Area to be served is 150 hectares. Population density is 50000. Time of concentration is 20 minutes. Rate of water supply is 135 LPCD. Impermeability factor = 0.45. Assume 80% of water supplied turns into sewer and peak factor as 1.5.
18. Write in detail about hydraulics of flow in sewer and also runoff estimation formulas.
19. Elaborate about unit operations and unit process of primary treatment of sewage.
20. Explain about the primary sedimentation tank process.
21. Explain about screen and grit chamber process.

22. A grit chamber is designed to remove the particles of diameter 0.2mm, specific gravity 2.65, settling velocities of particles ranges from 0.15 to 0.021m/s. A flow through velocity of 0.25 m/s will be maintained by proportioning weir. Determine the channel dimension for a maximum waste water flow of 2ML/day.
23. Enumerate and explain the various sewer Appurtenances with neat sketches.
24. Explain the various physical-chemical characteristics of sewage and state their environmental significance.