SHRI ANGALAMMAN COLLEGE OF ENGINEERING AND TECHNOLOGY
(An ISO 9001:2008 Certified Institution)
SIRUGANOOR,TRICHY-621105.

FS 81504

DEPARTMENT OF CIVIL ENGINEERING

CE1305 ENVIRONMENTAL ENGINEERING

UNIT – I
PART – A

1. What are the methods of population forecasting?
2. Define design period? What are the factors governing the design period?
3. What are various type of water demand?
4. What are the various type of water available on the earth?
5. What is hydrologic cycle?
6. What are rivers? What are the types of river?
7. What is jack well?
8. What are springs? What are the types of springs?
9. What are artesian springs?
10. What are the different types of wells?
11. What are the factors governing the selection of a particular source of water?
12. What are various type pressure pipes?
13. What are the advantages and disadvantages of cast iron pipes?
14. How the corrosion of metal pipes is reduced?
15. What are the factors governing location of intake?
16. What are the types of intake?
17. What are tube wells?
18. What are the factors affecting per capita demand?
19. What are the various methods of purification of water?
20. Define detention period?

PART – B

21. Explain the laying, jointing and testing of waste water treatment pipes.
22. The population of 5 decades from 1930 to 1970 is given below in the table. Find out the population of 1, 2, 3 decade beyond the last known decade by using arithmetic increase method.

Year	1930	1940	1950	1960	1970	1980	1990
Population	250	280	340	420	470	510	550

23. What are the factors affecting per capita demand?
24. Explain in brief the different methods for prediction of future population of a city with reference to design of water supply system.
25. Writ e a note on common impurities found in water.
26. Describe with a neat sketch the reservoir intake for an earthen dam.
27. State the comparative merits and demerits of the following materials used in the conveyance of water, (a).C.I (b) Steel (c) Concrete.

UNIT –II
PAR T – A

1. Define coagulation?
2. Define filtration? What are the 2 types of filter?
3. What is schmutzdecke or dirty skin?
4. Define uniform coefficient?
5. Differentiate between slow and rapid sand filter with respect to (a) Rate of filtration (b) loss of head.
6. Define sterilization?
7. What is chloramine?
8. What is softening?
9. What are the methods of removing permanent hardness?
10. Define alkalinity?
11. What is permutit?
12. How are aeration water carried out?
13. Define fluoridation?
14. What are the methods of desalination?
15. What is different system of distribution networks?
16. What are various methods of distribution system?
17. Define fire storage?
18. Enumerate various chemical parameter of water?

PART – B

19. Explain the different water distribution system layouts with neat sketches.
20. Explain the principles in designing of water supply and drainage in buildings.
21. What are intake towers? Explain in brief with neat diagram?
22. What is sedimentation tank? What are the different types of sedimentation tanks?
23. Sketch and explain the salient points of the various types of distribution network?
24. Write the difference between slow sand and rapid sand gravity filter?

25. Explain distribution reservoirs briefly?
26. Explain the method of purification of water?
27. Describe the various methods of application of coagulants.
28. What is flocculation? Explain with a neat sketch a flocculator with mechanical agitators.

UNIT – III
PART – A

1. What are the two types of sewage system?
2. What are the two types of water meter?
3. Define time of concentration?
4. List the components of sewerage system?
5. What is peak drainage disturbance?
6. .Mention some shapes of sewer pipe
7. What are the forces acting on sewer pipes?
8. What are the materials used for constructing sewer pipes?
9. Give some qualities of the good sewer pipes
10. What are the tests conducted in sewer pipes after laying?
11. Define sewer appurtenances
12. .Mention the classification of manholes
13. What is meant by catch basins?
14. Define inverted siphons
15. What are the various methods of ventilation for sewers?
16. What are the different types of pumps used commonly for pumping the sewage?

PART – B

17. Discuss the various principles of designing drainage system for buildings.
18. Explain the construction steps involved in laying of a sewer line.
19. What are joints? What are the different types of joints? Explain in brief with neat diagram?
20. What are pipe appurtenances? Explain in brief with neat diagram?
21. Explain the different plumbing systems with neat sketches .And also compare the plumbing systems.
22. Explain the design of an inverted siphon?
23. Explain pumping station with neat diagram?
24. Write short notes on: (a) Drop man holes (b) Lamp holes (c) Cleanouts (d) Street inlet called gullies.
25. What are the shapes of sewer pipes? Explain in detail.
26. Describe the procedure laying and testing of sewer pipes.
27. Estimate the rational method of estimating of storm water flow.

UNIT – IV
PART – A

1. What is the purpose of using velocity control device in a grid chamber?
2. Mention the classification of treatment process of sewage.
3. State the purpose of using the skimming tanks.
4. Why baffles are provided in the sedimentation tank in sewage treatment?
5. What are the operational troubles in trickling filter?
6. What are the types of trickling filters?
7. Define sludge age.
8. Define sludge volume index.
9. What is meant by biodegradable organic matter?
10. What are the various tests for finding the quality of sewage?
11. What is meant by relative stability of a sewage effluent?
12. What are the methods of disposing the sewage effluent?
13. What are the different types of sewage treatment?
14. Define sludge digestion.
15. What are the stages in the sludge digestion process?
16. What is meant by ripened sludge?
17. What are the factors affecting sludge digestion and their control?
18. What are the types of incinerators has primary designed?
19. What are the methods of aeration?
20. What is meant by sludge concentrator unit?

PART – B

21. Describe the step involved in the design of septic tank .And also explain the working of a trickling filter with neat sketch.
22. Explain the operational principles of stabilization ponds and Oxidation ditch.
23. Explain the design procedure of trickling filter with neat sketches.
24. What are the various secondary unit methods of treating sewage water? Distinguish between any two of them.
25. Write a note on S.S, BOD removal by plain sedimentation by primary sedimentation tank.
26. What do you understand by secondary treatment of sewage water? Explain the various methods of biological treatment.

UNIT – V
PART – A

1. Give different types of thicker unit.
2. What are the methods of disposal of septic tank effluent?
3. Define percolation rate.
4. What are the soil absorption systems?
5. What are the methods of applying sewage effluents to forms?
6. What is meant by oxygen sag curve?
7. What is meant by sewage sickness?
8. What are the preventive methods for sewage sickness?
9. Define dilution factor.
10. What is meant by self purification?
11. List various natural forces of self purification
12. What are the factors affecting the reduction?
13. What is meant by prim lake pollutant?
14. What is meant by de oxygenation curve?
15. How the river maintaining its clearness?
16. Name the biological zone in lakes.
17. What is meant by re -oxygenation?
18. What is meant by zone of recovery?
19. What is meant by sludge banks?

PART – B

20. Explain the methods available and limitations of land disposal of sewage.
21. Write short notes on (a) Wastewater reclamation (b) Sewage disposal to sea water (c) Land treatment.
22. Explain the Streeter Phelps model and its applications. Explain also the different techniques for waste water reclamation.
23. Explain the oxygen sag curve.
24. Explain the sewage disposal on land.