

Programme: B. Tech

Course Name: Environmental Engineering - I

Course Code: ECE 358

Assignment – 4

Topics Covered – Unit 3 (CO3)

Assignment 4

1. Discuss the main objectives of the water treatment
2. Briefly outline the required water quality after the completion of the treatment process
3. With a neat sketch, explain the water purification system
4. Draw a neat sketch of the conventional water treatment system
5. Draw a flow-sheet of the water treatment system, if the source is (a) River (b) Lake or Reservoir
6. Explain the function of a bar screen
7. Explain the importance of aeration in the treatment process. In this context, explain the different substances that can be removed due to aeration.
8. With a neat sketch, explain the concept of (a) water dispersed in air (b) air dispersed in water.
9. With a neat sketch, derive the Stokes Law for settling of discrete particles
10. With a neat sketch, explain the settling principle of Type- I settling
11. With a neat sketch, explain the settling principle of Type- II settling.
12. With a neat sketch, derive the condition which shows that settling velocity in a rectangular tank is independent of depth.
13. What are the main assumptions in designing of horizontal sedimentation tank?
14. Explain the flocculation process with a neat sketch.