

Department of Civil Engineering
B.E. semester VI(Civil)
Water and Wastewater Engg. (2160604)

Tutorial-2019

1. Write all practical's performed in the laboratory in given format.
2. Draw the cross sectional Flow diagrams of complete Wastewater treatment plant
3. Draw the layout plan Water treatment Plant and state purpose of each unit.
4. A city of 50000 population is to be supplied water from a lake situated at 2.0 km away from WTP, design pipe for flow of water and find out required capacity of centrifugal pumps for pumping raw water from source to WTP for water level difference of 5 m.
5. Design PST for removing 0.03 mm size particles of SG 2.60 for flow of 0.2 cumecs. Assume suitable data as per manual recommendation.
6. What is short circuiting? Design a clariflocculator for a WTP designed to serve the population of 1.5 lacs
7. Describe the different sewer appurtenances with sketch and give the design procedure for the design of partial flow sewer.
8. Why velocity control device is required in Grit chamber. Design a grit chamber fitted with velocity control device for wastewater flow of 0.1 cumecs.
9. What is HRTF? Design HRTF for wastewater flow of 3.5 MLD with recirculation ratio=1.4, BOD of raw wastewater=300 mg/l and desired effluent BOD=40 mg/l.
10. Design a septic tank with soak pit for 150 users.
11. Differentiate the following
 - (i) SSF and RSF
 - (ii) Super chlorination and Break point chlorination
 - (iii) Grid iron system and Ring system of distribution network
 - (iv) Activated sludge process and Trickling filter process
 - (v) Oxidation pond and oxidation ditch
12. Write short notes on following:
 - (a) Water supply scheme
 - (b) Methods of removing hardness
 - (c) Troubles in RSF
 - (d) Sludge digester
 - (e) Hardy cross method