Eighth Semester B.Tech Degree Examination  
(2013 Scheme) 

13.806.6 Elective-IV INDUSTRIAL WASTEWATER MANAGEMENT (C) 

Time: 3 Hours            Max. Marks: 100 

MODEL QUESTION PAPER 

PART-A 

Answer ALL questions 

1. Discuss the merits and demerits of joint treatment of industrial wastewater and domestic sewage. 
2. Write a short note on stream protection measures.  
3. Define neutralisation and explain how it is achieved in industrial wastewater treatment plants. 
4. BOD of sewage for 5 days at 25° C is 220 mg/l. If the deoxygenation constant at 20° C is 0.12 per day, estimate the BOD for 8 days at 30° C. 
5. Enlist the various characteristics of wastewater from a tannery.(5 x 4 = 20 Marks) 

PART-B 

(answer ANY ONE full Question from each Module) 

Module-I 

6. Explain the effects of industrial wastewater on streams. (20) 
7. Describe how the volume and strength reduction can be achieved in industries. (20) 

Module-II 

8. (a) Explain in detail the factors to be considered while stream sampling. (10) 
(b) Enumerate the various zones of degradation of a stream? (10) 

9. It is proposed to treat industrial wastewater and domestic sewage in the domestic sewage treatment plant in a town with population of 40000. The per capita production of sewage is 220 lpcd with a per capita BOD of 65 g/day. The industrial wastewater produced is 3 MLD with a BOD of 1300 mg/l. The river flows with a minimum discharge of 4000 l/s at a saturated DO of 7.5 mg/l. If a minimum DO of 4 mg/l has to be maintained in the river, compute the degree of treatment of the combined sewage required, assuming an average expansion factor of 10%. Assume deoxygenation and reoxygenation coefficients and 0.1per day and 0.3 respectively. (20) 

Module-III 

10. Describe the methods of removal of dissolved organic solids from industrial wastewater. (20) 
11. Discuss the various treatment methods for the removal of colloidal solids. (20)
Module-IV

12. With a flow diagram, explain the processes in a paper and pulp mill. Also discuss the characteristics of waste and the treatment methods to be adopted. (20)

13. Describe the various processes in a textile industry with a flow chart and explain the sources of wastewater, their characteristics and propose the treatment methods. (20)