



Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, November 2015
(2008 Scheme)**

08.807.3 Elective – V : INDUSTRIAL WASTE WATER MANAGEMENT (C)

Time: 3 Hours

Max. Marks: 100

PART – A

Answer **all** questions :

- I. a) Explain the term steam standard and how it is monitored.
- b) Distinguish equalization and proportioning of wastes.
- c) The 3 day BOD at 25°C of a sample is 100 mg/l. Reaction rate K at 20°C (base e) is 0.2 per day. What is the 5 day BOD at 20°C ?
- d) Define self purification phenomenon.
- e) Differentiate between dissolved air floatation and dispersed air floatation.
- f) Explain the process of coagulation and list the different coagulants used.
- g) List the pollutants present in tannery wastes.
- h) What are the characteristics of distillery waste ? **(8×5=40 Marks)**

PART – B

Module – I

- II. a) Discuss the effect of industrial wastes on streams. **20**

OR

- b) Describe how strength reduction of waste can be achieved in industries. **20**

**Module – II**

III. a) Explain the different zones of settling with neat sketches. 20

OR

b) A waste water treatment plant disposes its effluents into a stream, flow is $0.2 \text{ m}^3/\text{sec}$ with DO 2 mg/l at 26°C and is having BOD_5 at 20°C as 40 mg/l . The stream is having a flow of only $0.5 \text{ m}^3/\text{sec}$ with DO 8 mg/l at 22°C and BOD_5 at 20°C as 3 mg/li . K_1 at 20°C is $0.2/\text{day}$ (base e) and K_2 at $20^\circ\text{C} = 0.4/\text{day}$. Velocity of stream is 0.2 m/ sec . Determine the critical oxygen deficit and its location. Temp. coefficient is 1.04 for K_1 and 1.02 for K_2 . 20

Module – III

IV. a) Explain the different parameters affecting the rate of adsorption of a pollutant. 10

b) Explain break through curve of adsorption. 10

OR

c) Explain the different wastewater sources in a paper and pulp industry and describe the possible treatment methods for them. 20
