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10CV835

Eighth Semester B.E. Degree Examination, June/July 2017
Industrial Wastewater Treatment

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Write the difference between Domestic wastewater and Industrial wastewater. (05 Marks)
b. Briefly explain the effects of Industrial pollutant on surface water bodies. (10 Marks)
c. Briefly explain effluent standards and stream standards and write their salient features. (05 Marks)
- 2 a. Briefly explain the factors to be considered for stream sampling. (08 Marks)
b. Write the BIS for discharge of Industrial wastewater into water bodies and public sewers. (06 Marks)
c. With the help of a neat diagram, write the salient features of oxygen sag curve. (06 Marks)
- 3 Briefly explain the following theories applied in the treatment of Industrial wastewater :
a. Volume Reduction.
b. Strength Reduction.
c. Equalization and Proportioning.
d. Neutralization. (20 Marks)
- 4 a. Briefly explain the following process for removal of suspended solids from industrial waste water : i) Sedimentation ii) Flotation. (10 Marks)
b. Briefly explain the following process for removal of inorganic dissolved solids from Industrial wastewater : i) Dialysis ii) Ion – exchange process. (10 Marks)

PART – B

- 5 a. Discuss the feasibility study of treating the industrial wastewater along with the municipal wastewater. (10 Marks)
b. Discuss different methods of sampling and write their importance in wastewater sampling. (10 Marks)
- 6 a. With the help of flowchart, explain the sources and characteristics of Tannery wastewater. (10 Marks)
b. Discuss with the help of flow diagram, the various treatment units required for the treatment of cotton textile mill wastewater. (10 Marks)
- 7 a. With the help of flowchart, explain the treatment of distillery wastewater and also write their effects on water bodies. (10 Marks)
b. With the help of a flowchart, explain the sources and characteristics of wastewater generated from pulp and paper mill. (10 Marks)
- 8 Write short notes on :
a. Sources of Industrial wastewater.
b. Characteristics of pharmaceutical wastewater.
c. Advantages of joint treatment.
d. Reusing and Recycling of wastewater. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.