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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.