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Eighth Semester B.E. Degree Examination, July/August 2021
Industrial Wastewater Treatment

Time: 3 hrs.

Max. Marks: 100

Note : 1. Answer any FIVE full questions.
2. Assume any missing data suitably.

- 1 a. Define Industrial Waste Water. List the different sources of Industrial Waste water and briefly explain the same. (10 Marks)
b. Briefly explain the variations in quantity and quality of Industrial Waste water. (10 Marks)
- 2 a. Explain the testing methods to determine the toxicity of Industrial Waste Water. (10 Marks)
b. What are the objectives of Bio – monitoring? Briefly discuss the species sensitivity. (06 Marks)
c. Distinguish between Lethal concentration and effective concentration. (04 Marks)
- 3 a. Explain the effects of discharging Industrial Waste Water on stream. (10 Marks)
b. Briefly discuss the difference between Stream standards and effluent standards. (05 Marks)
c. Give the effluent discharge standards for Industrial Waste Water into sewers. (05 Marks)
- 4 a. List the ISI tolerance limits for (7) seven characteristics on the disposal of Industrial effluents i) On land ii) On surface water. (10 Marks)
b. Explain the Treatment methods generally adopted in the treatment of Textile mill waste water. (10 Marks)
- 5 a. Explain the different methods adopted for the neutralization of acid in Industrial Waste water. (10 Marks)
b. What is Equalization? Explain the different methods adopted for equalization. (06 Marks)
c. Explain the following : (04 Marks)
i) Bench – Scale reactor studies ii) Estimation of process kinetic parameters.
- 6 a. Explain the necessities of conducting treatability studies for Industrial Waste water. Discuss any one method of bench scale study for Industrial Waste Water. (10 Marks)
b. Discuss the composition of distillery wastewater and its treatment alternatives. (10 Marks)
- 7 a. List the sources, characteristics effects of Tanning Industry effluents. (08 Marks)
b. With the help of flow diagram, explain the treatment of distillery (plant) Industrial effluents. (07 Marks)
c. Enumerate the Waste Water Treatment method for Nitrogenous Fertilizer Industries. (05 Marks)
- 8 Write short notes on the following :
a. Neutralization of Industrial effluent.
b. Equalization of Industrial effluent.
c. Proportioning of Industrial effluents.
d. By product recovery. (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.