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Eighth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Industrial Waste Water Treatment

Time: 3 hrs.

Max. Marks:100

Note: 1. Answer FIVE full questions, selecting at least TWO questions from each part.
2. Any missing data may be assumed suitably.

PART – A

- 1 a. Differentiate between Domestic waste water and industrial waste water. (06 Marks)
b. Explain types of sampling. (06 Marks)
c. Explain effluent and stream standard with examples. (08 Marks)
- 2 a. Explain different zones of pollution in streams. (10 Marks)
b. A town discharges 80 cumecs of sewage into a stream having a rate of flow of 1200 cumecs during lean days, at a 5-day BOD of sewage at the given temperature is 250mg/l. Find the amount of critical Dissolved oxygen deficit and its location in the downstream portion of the stream. Assume deoxygenation coefficient K as 0.1 and coefficient of self purification as 3.5. Assume saturated D.O at given temperature as 9.2 mg/l? (10 Marks)
- 3 a. Explain different method of strength Reductions. (10 Marks)
b. Explain methods used for Neutralization of Acidic and Alkaline wastes. (10 Marks)
- 4 a. Explain any two method used for Removal of suspended solids. (06 Marks)
b. List the methods used for sludge disposal. Explain any two methods briefly. (06 Marks)
c. Write short notes on : i) Reverse osmosis ii) Ion exchange. (08 Marks)

PART – B

- 5 a. What are the advantages and disadvantages of combined treatment of industrial waste water with municipal waste water? (10 Marks)
b. With a flow diagram, explain the units used for treatment of cotton textile mill waste. (10 Marks)
- 6 a. Explain the treatment options for Distillery waste water in India. (10 Marks)
b. Explain the sources and characteristics of tannery waste. (10 Marks)
- 7 a. Explain with a flow diagram, treatment option for Sugar Mill Waste. (10 Marks)
b. Discuss effect of Dairy waste on receiving stream. Also suggest suitable treatment option for Dairy Industry. (10 Marks)
- 8 a. Explain How pharmaceutical wastes is treated. (10 Marks)
b. Explain with a flow diagram the treatment of paper and pulp mill waste. (10 Marks)

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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.