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10CV835

**Eighth Semester B.E. Degree Examination, Jan./Feb. 2021**  
**Industrial Waste Water Treatment**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO questions from each part.**

**PART - A**

- 1 a. Differentiate between domestic and Industrial Waste Water. (07 Marks)  
b. Discuss the factors to be Considered in Stream Sampling and explain any three of them. (09 Marks)  
c. Name the different Characteristics of Industrial Waste Water. (04 Marks)
- 2 a. Explain the Self Purification of Streams with different natural forces. (10 Marks)  
b. A Stream Saturated with DO has a flow of 1.2 m<sup>3</sup>/s BOD of 4 mg/l and rate constant of 0.3 per day. It receives an effluent discharge of 0.25 m<sup>3</sup>/s having BOD 20 mg/l DO 5mg/l and rate constant 0.13 per day. The average velocity of flow of the stream is 0.18 m/s. Calculate the DO deficit at Point 20 km and 40 km downstream. Assume that the temperature is 20<sup>0</sup>c throughout and BOD is measured at 5 days. Take Saturation DO at 20<sup>0</sup>c as 9.17 mg/l. (10 Marks)
- 3 a. Discuss the terms strength and volume reduction with reference to industrial waste water treatment. (12 Marks)  
b. Explain in detail the methods of neutralization of industrial waste water. (08 Marks)
- 4 a. Explain the different methods of removal of inorganic dissolved solids from industrial waste water. (12 Marks)  
b. What do you mean by sludge thickening? Describe with the help of sketch the gravity sludge thickener. (08 Marks)

**PART - B**

- 5 a. Mention the advantages and Disadvantages of Combined treatment of industrial waste with domestic waste water. (12 Marks)  
b. Discuss With conditions and treatment methods for discharge of completely treated Industrial waste water to stream. (08 Marks)
- 6 a. Explain the treatment of cotton textile mill waste with flow diagram. (10 Marks)  
b. Discuss the Characteristics of Sugar mill waste and also effects of the waste on receiving water. (10 Marks)
- 7 a. With the help of flow chart, explain the treatment of Dairy waste water. (10 Marks)  
b. Mention the origin and characteristics of waste water from Blast furnace. (10 Marks)
- 8 a. Discuss the Characteristic and treatment of waste water from a pharmaceutical Industry. (10 Marks)  
b. Write short notes on:  
i) Equalization ii) Reuse and Recycling of Waste Water. (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.