

BE- CIVIL - sem VIII - R-19- C-scheme

Time: 3 hrs

Marks: 80

N.B:

1. Question.No.1 is compulsory.
2. Answer any three questions out of remaining five questions.
3. Assume suitable data wherever required
4. Figures to the right indicate full marks.

Q.1 Attempt any four

1. Explain any two methods of Strength reduction
2. What is Environment Audit?
3. Explain effluent standards & stream standard.
4. A waste water effluent of 500 lit/s with DO=1.5 mg/lit enters a river where the flow is $35 \text{ m}^3/\text{sec}$ with DO=8.5 mg/lit. Determine the DO after mixing of waste water with the river water.
5. Explain self-purification of natural streams.



(20)

Q.2

- a) What is Environmental Impact Assessment? Why EIA is done? Explain the same in the following context-i) Screening ii) Scoping iii) Prediction iv) Reporting. 10
- b) What is neutralization? Explain the methods of neutralization in detail with chemical reactions. 10

Q.3

- a) A city discharges 100 cumecs of sewage water into a river, which is fully saturated with oxygen and flowing at the rate of 1500 cumecs with a velocity of 0.1 m/sec. The 5-day BOD of sewage at the given temperature is 280 mg/lit. Find when and where the critical DO deficit will occur and what is its amount. Assume coefficient of purification of stream (f) as 4.0, and $K_D = 0.1$. (10)
- b) Explain in detail manufacturing process for sugar industry with neat sketch. (10)

Q4

- a) Enlist different pollutants present in waste water and explain the effects of industrial pollutants on river/stream. 10
- b) Draw a neat sketch of manufacturing of process of paper industry showing different waste water sources 10

Q5

- a) Explain in detail various byproducts obtain from dairy industry and explain pasteurization 10
- b) What is common effluent treatment plant? State the merits and demerits of it. 10

Q.6 Write short notes on any four

(20)

- a) Soil Biotechnology
- b) Rotating Biological Contactor
- c) Sampling of an Industrial waste
- d) Recovery of potash from distillery waste
- e) Equalisation

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