

N.B. 1 Question number ONE is compulsory.

2 Attempt any THREE questions out of remaining FIVE.

3 Figure to right indicate full marks.

- 01.** Answer the following **20**
- (a) Explain Environmental legislation and regulations.
 - (b) Explain Nitrification and Denitrification in detail.
 - (c) Explain Eutrophication in lakes.
 - (d) State Noise pollution causes, consequences and abatement methods.
- 02.** (a) How water pollutants are classified? List the major water pollutants, explain any one in detail. **10**
- (b) Describe solid waste disposal methods. Explain any one in detail. **10**
- 03.** (a) What are advance waste water treatments? Explain Electrodialysis process in detail with a neat diagram. **10**
- (b) Explain Plume behavior depending on atmospheric stability and wind turbulence. **10**
- 04.** (a) Classify the waste water treatment methods. Discuss one Primary and Secondary treatment methods. **10**
- (b) 10^4 m³/day of liquid effluent from a food processing unit is to be treated by the activated-sludge process at 30⁰C from an initial (BOD)₅ days of 650 mg/l to a final (BOD)₅ days of 25 mg/l. Bench-scale studies at 20⁰C and mixed-liquor biomass concentration of 3000 mg/l gave BOD removal rate coefficient of 14 (day)⁻¹. Estimate the retention time and size of the unit. Θ_1 (temperature coefficient) = 1.02. **10**
- 05.** (a) Describe operational and constructional features of : **10**
- (i) Centrifugal Scrubber
 - (ii) Fabric filter
- (b) Explain Wet oxidation process with a neat flow sheet. **10**
- 06.** (a) Discuss the classification of hazardous waste based on material properties. **10**
- (b) Explain in detail "Air pollution effects on Vegetation" with a neat diagram. **10**
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