

Roll No. ....

Total Pages : 3

**BT-8/M-20**

**38224**

**INDUSTRIAL WASTE WATER TREATMENT**

Paper–CE-406-N

Time Allowed : 3 Hours]

[Maximum Marks : 75

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

**UNIT-I**

1. (a) How Industrial waste effects waste water treatment plants? 10
- (b) What are Industrial wastes/ How they differ from municipal wastes? 5
2. (a) Explain the term 'Sewerage system'. 5
- (b) What are the effects of Industrial wastes on River streams. 10

**UNIT-II**

3. (a) Discuss the term 'Process change' in detail. 5
- (b) How we can minimize the effects of Industrial effluent on receiving streams? 10

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4. Explain the following terms :
- (a) Volume Reduction
  - (b) Reuse of waste water.
  - (c) Neutrolization. 15

### UNIT-III

5. Give the Industrial effluent standards for disposal into Water source.
- (a) Nitrate
  - (b) Alkalinity
  - (c) Aluminium
  - (d) BOD
  - (e) TDS. 5
6. (a) What is population equivalent? Explain the steps to calculate population equivalent. 9
- (b) Write the standards for the following properties of water before disposing industrial waste on land for irrigation.
- (i) Turbidity
  - (ii) Mercury. 6

## UNIT-IV

7. Discuss the working of tannery with the help of neat sketch. 15
8. Draw the flow diagram of nitrogeons fertilizer and write its manufacturing process in detail. 15