

Roll No.

Total Pages : 3

BT-8/D-19

38044

INDUSTRIAL WASTE WATER TREATMENT

Paper : CE-406E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt five questions in all, selecting at least one question from each unit. Assume appropriate data wherever necessary.

UNIT-I

1. (a) Explain the problems engaged with industrial sewage discharge in water stream. 10
- (b) Discuss the term industrial wastes and write about its effects when not properly disposed. 10
2. (a) Narate the effects of industrial work discharge on waste water treatment plants. 10
- (b) Differentiate between industrial sewage and municipal sewage and explain the effects if industrial sewage enters municipal sewage system. 10

UNIT-II

3. (a) Explain the effects of industrial effluents on wastewater treatment plants. How can we minimize these effect ? 15
- (b) Explain the term conservation of water. 5

4. Explain the following terms in detail :

- (a) Volume reduction.
- (b) Strength reduction.
- (c) Neutralization.
- (d) Equalization. 20

UNIT-III

5. (a) Explain the term population equivalent. Discuss methods of calculation for population equivalent. 10
- (b) Write the industrial effluent standards for disposal into inland surface water for :
 - (i) Alkalinity.
 - (ii) Hardness.
 - (iii) pH.
 - (iv) Fe.
 - (v) Lead (Pb). 10
6. (a) What are industrial standards. Discuss their unit in SI system ? 5
- (b) Give the industrial standards of following for disposal of wastewater on land for irrigation :
 - (i) Cyanide.
 - (ii) T.D.S.

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- (iii) Mn.
- (iv) Sulphate.
- (v) Chlorides. 15

UNIT-IV

- 7. (a) Discuss the manufacturing process of textile industry with the help of flowsheet. 10
 - (b) Explain the quality parameters of distillery and its manufacturing process with the help of flow diagram. 10
 - 8. (a) What are radio active wastes ? Explain the process of their disposal. 10
 - (b) Explain the preparation process of nitrogenous fertilizer and discuss about its waste generation. 10
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