Sm VIII - Civil - IWT (CBSGS)

Q.P.Code:26301

(3 Hours) [Total Marks 80]

02 JUN 2018

Note: 1. Question No.1 is compulsory
2. Attempt **any three** questions from remaining **five** questions.
3. Assume **suitable** data wherever required.
4. **Figures** to the **right** indicate **full** marks.

Q.1 Attempt any **four** 20

a. State the importance of industrial waste treatment.
b. What is off-line Equalization?
c. Explain in brief proportioning of waste.
d. A waste water effluent of 560 lit/s with DO = 3.0 mg/lit enters a river where the flow is 28 m^3/sec with DO = 8.2 mg/lit. Determine the DO after mixing of waste water with the river water.
e. What are the factors affecting self-purification of polluted streams?

Q.2 a. Explain in detail volume and strength reduction of industrial waste? 10

b. Discuss briefly the various treatment methods available for sugar wastes. Which of them would you recommend for sugar mills in Maharashtra? 10

Q.3 a. With the help of neat flow sheet explain the manufacturing process of cotton cloth. Using cotton as raw material. 10

b. A city discharges 120 cumecs of waste water into a river, which is fully saturated with oxygen and flowing at the rate of 1600 cumecs during its lean days with a velocity of 0.2 m/sec. The 5 day BOD of waste water is 260 mg/lit and that of river water is 2 mg/lit. Find when and where the critical D.O. deficit will occur in the downstream portion of the river, and what is its amount. Assume the coefficient of de-oxygenation (K_D) as 0.1 and coefficient of re-oxygenation (K_D) as 0.4. 10

Turn Over

Q.4 a. What is Environmental Impact Assessment? Why EIA is done? Explain the same in the following context 10
i) Screening ii) Scoping iii) Prediction iv) Reporting

b. Explain with the help of flow sheet how you will treat wastes from electroplating industry. 10

Q.5 a. Discuss with the help of manufacturing flow sheet the process that contributes to industrial wastes in tannery industry. Give the major characteristics of the wastes. 10

b. What is common effluent treatment plant? Draw flow diagram. State the merits and demerits of it. 10

Q.6 **Write short note on** 20

a. Treatability study
b. Recovery of potash from distillery waste
c. Save all from Pulp and Paper Industry
d. Role of anaerobic treatment in Industrial Waste Treatment
