Q.P. Code : 21642

[Time: Three Hours]   [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 a) Explain effluent standards & stream standard.   **(20)**
b) Is it necessary to treat industrial waste? Justify the answer.
c) Explain inplant control measures to reduce the strength of Industrial waste.
d) Write a note on EIA.

Q. 2

a) What is oxygen sag curve? With a neat figure explain the significance of it.   **(05)**

b) A city discharges 100 cumecs of sewage in to a river, which is fully saturated with oxygen and   **(10)**
flowing at a rate of 1500 cumes during its lean days with a velocity of 0.1m/sec. The 5 day BOD
of sewage at a given temperature is 250 mg/lit. Find out when & where the critical DO deficit
will occur in the downstream portion of the river & what is its amount. Assume coefficient of
purification of stream (f) as 4 & coefficient of deoxygenation (K_D) as 0.1. [Assume other data
required]

c) What is equalization? Discuss the methods of equalization.   **(05)**

Q. 3

a) Explain with a neat flow sheet manufacturing process of cotton cloth using cotton as raw   **(10)**
material in the textile industry.
b) Why Neutralization is required for the Industrial waste? Explain the various methods of   **(10)**
neutralization.

Q. 4

a) Explain the treatment given to the electroplating industry effluent with a neat flow sheet. Also   **(10)**
discuss the importance of segregation in this industry effluent.
b) What is environmental audit? What are the objectives of environmental audit?   **(05)**
c) What is UASB? Explain in brief.   **(05)**

Q. 5   Write a short note on (Any Four)   **(20)**
1) Treatment of Sugar industry waste
2) CETP
3) Sludge drying beds
4) Good house keeping
5) Sampling of Industrial waste

Q. 6 a) Discuss the characteristics of dairy industry waste water. What treatment you suggest if the dairy **(10)**
effluent is to be disposed to
1) inland surface water
2) Sewer

b) Explain the manufacturing process of leather in the tannery industry with neat flow sheet.   **(10)**
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