

B.Tech III Year II Semester (R13) Supplementary Examinations December 2016

ENVIRONMENTAL ENGINEERING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

PART - A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What are the objectives of protected water supply system?
 - List out various water borne diseases.
 - What is break point chlorination?
 - List out various miscellaneous water treatment methods.
 - Differentiate between Sullage and Sewage.
 - Define B.O.D.
 - What is F/M ratio?
 - Draw the flow diagram of anaerobic digestion mechanism.
 - What are the various types of air pollutants?
 - What is mechanical composting?

PART - B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT - I

- 2 Explain various methods of population forecasting.

OR

- 3 Enumerate and explain the various characteristics of raw water supplies.

UNIT - II

- 4 Differentiate between slow sand filter and rapid sand filter.

OR

- 5 Explain the layouts of distribution networks with neat sketches.

UNIT - III

- 6 Enumerate various Sewer appurtenances and explain any four with neat sketches.

OR

- 7 (a) Derive an expression for first stage B.O.D.
(b) For a sample of sewage, 5-day BOD at 20°C is 250 mg/l and it is 67% of the ultimate BOD. What will be its 4-day BOD at 30°C?

UNIT - IV

- 8 Explain the various unit operations involved in the wastewater treatment with a flow diagram.

OR

- 9 (a) Design a septic tank for a population of 100 persons with suitable assumptions.
(b) What are the various design considerations of Imhoff tanks?

UNIT - V

- 10 Explain the various disposal methods of solid waste.

OR

- 11 Explain the various types of plume behavior with neat sketches.
