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Name.....

Reg. No.....

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2008

CE 04 803—ENVIRONMENTAL ENGINEERING—II

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

1. (a) Describe the conservancy and water carriage system of sanitation. In new developing town which method you will prefer and why ?

   (b) What are the sources of sanitary sewage ? What are the factors affect the quantity of sanitary sewage ?

   (c) What are the characteristics of sewage ? How various constituents of sewage influence these characteristics ?

   (d) What do you understand by the significance of BOD ? How it is determined ?

   (e) What is oxygen sag curve in stream pollution ? Explain in detail.

   (f) What are the properties and quantity of sludges obtained from various sewage treatment units ?

   (g) Explain the effect of air-pollution on men, material and animals.

   (h) Explain briefly the solid-waste disposal methods.

   (8 × 5 = 40 marks)

2. (a) Define sewage, sewer and sewerage. State the merits and demerits of

      (i) Separate system of sewerage.

      (ii) Combined system of sewerage.

   Or

   (b) Why it is necessary to provide sewer appurtenances on the sewer lines ? With the help of a neat sketch, explain the working principle of manholes and inverted Siphons.

3. (a) Explain the principle involved in the sewage purification of Activated sludge process. Discuss the different methods of aeration.

   Or

   (b) Sketch and describe the working of a standard rate Trickling filter for purification of sewage. What preliminary treatment should sewage undergo before it can be treated by the filter and why ? Describe the biological changes that takes place in the filter bed.

4. (a) Why it is necessary to treat the sewage sludge ? What is the process of anaerobic digestion ?

   Or

   (b) Write short notes on (i) Elutriation of sluge ; (ii) Septic tank.

5. (a) Describe the incineration technologies and its emissions and its control in detail.

   Or

   (b) Describe the gaseous pollutants control techniques in detail.

   (4 × 15 = 60 marks)