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T.E. (Civil) (Part - II) (Semester - VI) Examination, December - 2015

ENVIRONMENTAL ENGINEERING - II

Sub. Code : 45546

Day and Date : Saturday, 05 - 12 - 2015

Total Marks : 100

Time : 02.30 p.m to 05.30 p.m.

- Instructions :**
- 1) Q.No.1 from section I and Q. No. 5 from section II is compulsory, solve any two out of the remaining three questions from each section.
 - 2) Assume suitable data wherever necessary and mention it.
 - 3) Figures to the right indicate full marks.

SECTION - I

Q1) Answer any three question of the following :

- a) What are the components of wastewater flow? What are the sources of waste water? [6]
- b) 1-day BOD of sewage at 30 °C is 150 mg/l. Determine the standard BOD. Rate constant base 10 = 0.10 /day at 20 °C. [6]
- c) Explain with neat sketches street inlet and catch basin. [6]
- d) Differentiate between standard rate and high rate trickling filter. [6]
- e) Explain in short methods of sludge thickening. [6]

- Q2)**
- a) Explain any four modifications of activated sludge process. [8]
 - b) Design an oxidation ditch to treat sewage with an initial BOD₅ of 300mg/l from a contributing population of a 1,00,000 to give an effluent BOD₅ of 30 Mg/l, sewage generation rate = 140 lpcd, F/M = 0.1, MLSS = 3000mg/l. [8]

- Q3)**
- a) Draw a neat sketch of standard rate and high rate anaerobic digester and give the design parameters. [8]
 - b) Septic tank effluent requires secondary treatment-comment. Discuss in short secondary treatment methods for treating this effluent. [8]

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- Q4)** a) Draw a DO sag curve and give the Streeter phelp's equation for DO deficit. [6]
b) Explain the principal of treatment in oxidation pond. [5]
c) Write a note on stream classification. [5]

SECTION - II

Q5) Answer following questions :- (Compulsory) [3 × 6 = 18]

- a) Discuss the factors affecting generation rate of solid waste.
b) Discuss Global warming.
c) What is noise pollution and how it is measured?

Q6) a) Explain with flow chart the functional elements of MSW management. [8]

- b) Enlist and discuss the different factors affecting composting. [8]

Q7) a) Describe the different types and their source of air pollution. [8]

- b) Explain principal and working of Bag house filter with neat sketch.[8]

Q8) a) Explain various techniques used for Noise Pollution control. [8]

- b) Explain the characteristics of noise and write noise level standards.[8]

