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Total No. of Pages : 3

T.E. (Civil)(Semester - VI) Examination, December - 2014

ENVIRONMENTAL ENGINEERING - II (Revised)

Sub. Code : 45546

Day and Date : Monday, 01 - 12 - 2014

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

- Instructions :
- 1) Que. No. 1 & Que. No. 5 are compulsory.
 - 2) Attempt any two other questions from each section.
 - 3) Figures to right indicate full marks.
 - 4) Make assumptions wherever necessary.
 - 5) Use of non-programmable calculator is allowed.

SECTION - I

Q1) Answer any three of following : **[3 × 6 = 18]**

- a) The BOD of a sewage incubated for one day at 30°C has been found to be 110mg/l. What will be the 5-day 20°C BOD? Assume $K = 0.1$ at 20°C.
- b) Draw the neat sketch of wastewater treatment plant showing all details in it.
- c) Explain oxidation ditch in detail.
- d) Explain concept of self purification of stream.

Q2) a) Discuss the sewer design process in detail. **[10]**

b) Explain the sewer appurtenances with respect to their function. **[6]**

Q3) a) Explain the activated sludge process with respect to its modifications. **[8]**

P.T.O.

b) For an oxidation ditch for a community with following data is given [8]

- i) Population of community = 3000 persons
- ii) Organic load of sewage = 30g BOD per capita per day.
- iii) Sewage flow = 150 lit / capita / day
- iv) Permissible limit of effluent BOD = 30 mg/l

Find

- 1) Percentage BOD removal
- 2) Volume of ditch
- 3) Hydraulic retention time

Q4) a) State and explain streeter Phelp's equation. [8]

b) Enumerate two methods for sewage disposal along with their merits and demerits. [8]

SECTION - II

Q5) Answer the following questions (Compulsory) : [4 × 5 = 20]

- a) List the various factors governing MSW generation rate.
- b) Explain the principal and working of Cyclone Separator.
- c) Discuss the effects of noise pollution.
- d) Discuss EIA.

Q6) a) Comment on suitability of following solid waste disposal options for Indian refuse : [8]

- i) Composting
- ii) Incineration

b) Explain the necessity and types of process techniques in solid waste. [7]

Q7) a) Distinguish following with examples :

[8]

i) Primary pollutants and secondary pollutants.

ii) Natural source and Manmade source

b) Explain the various meteorological aspects considered in Air pollution study.

[7]

Q8) a) What measures may be taken to control noise pollution? Explain. [8]

b) What are the various sources of noise pollution? Explain. [7]



SECTION - I

Q1) Answer any three of following: [3 × 4 = 12]

a) The BOD of a sewage incubated for one day at 30°C has been found to be 110mg/L. What will be the 5-day 20°C BOD? Assume $K = 0.1$ at 20°C.

b) Draw the neat flow chart of wastewater treatment plant showing all details in it.

c) Explain oxidation ditch in detail.

d) Explain concept of self purification of stream.

Q2) a) Discuss the sewer design process in detail. [10]

b) Explain the sewer appurtenances with respect to their function. [6]

Q3) a) Explain the activated sludge process with respect to its modification. [8]