SECTION – D

8. (a) Discuss in brief the various sources of noise and their typical noise levels. **10**

   (b) Differentiate between continuous noise, intermittent noise, and impulse noise. **10**

9. What do you mean by air control devices ? Explain dispersion models and equations ? **20**

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24381

B. Tech 6th Semester (Civil)

Examination – May, 2016

SEWERAGE AND SEWAGE TREATMENT

Paper : CE-308-F

Time : Three Hours] **[Maximum Marks : 100**

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question no. 1 is _compulsory_. Each question carries equal marks (20 marks). Student have to attempt _five_ questions in total at least _one_ question from each Section.

1. Write Short note on the following : **10 × 2 = 20**

   (i) Self cleansing velocity of sewer

   (ii) Inverted syphon

   (iii) Lamp hole

   (iv) Two pipe system of plumbing

   (v) Septic tanks

(vi) TOC

(vii) Skimming tank

(viii) Aeration lagoons

(ix) level of noise

(x) dispersion model for Air Pollution c

SECTION – A

2. (a) Describe in order the various stages followed in the construction of sewers. 10

   (b) Write a short note on sewer material, bringing out the criteria for selection of sewer material. 10

3. (a) Why it is necessary to provide 'ventilation' of the house sewers ? How it is achieved ? 10

   (b) Differentiate between Gully trap and S trap. 10

SECTION – B

4. (a) The sewage discharge of a city is 115 m³/sec in the river having a minimum discharge of 9501/sec with a velocity of 0.15 m/sec. The B.O.D. at 25°C of the sewage is 365 mg/l. The B.O.D. of the river is zero. Determine the quantity and point of critical deficit. 10

   (b) What factors are considered in estimating the amount of dilution required for disposal of sewage in bodies of water ? What dilution ratio are usually, employed in India while disposing of domestic sewage in inland surface streams, which are sufficiently clean ? 10

5. (a) There is sewage sludge with volume containing certain moisture content Pi % .What will be the volume of this sludge if its moisture content is reduced to p %. 10

   (b) Explain Dilution method vs Land disposal method for sewage disposal. 10

SECTION – C

6. With the aid of sketches, describe the principles involved in the design and construction of the following : 20

   (a) Septic Tank

   (b) Cesspool

7. Design an Imhoff tank to treat the sewage from a small town with 50,000 population, assuming that the suspended solids in the influent sewage are 200 ppm. Water content of sludge is 98%. Design the tank for three month sludge storage. Rate of sewage is 147 litre per head per day. 20