



C-09-C-605

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BOARD DIPLOMA EXAMINATION, (C-09)

MARCH / APRIL - 2019

DCE - VI SEMESTER EXAMINATION

ENVIRONMENTAL ENGINEERING - II

Time : 3 Hours]

[Total Marks : 80

PART - A

3×10=30

- Instructions :**
- (1) Answer **ALL** questions.
 - (2) Each question carries **THREE** marks.
 - (3) Answer should be brief and straight to the point.

- 1 Define Dry weather flow and storm water flow.
- 2 Draw the semi elliptical section and Basket handle section of sewer.
- 3 List out six objectives of treatment of sewage.
- 4 Mention any three sewage treatment units from which sludge is produced.
- 5 List the characteristics of industrial sewage.
- 6 What are the points to be borne in mind during inspection of drainage system ?
- 7 List any six sanitary fittings used in house drainage.
- 8 Define the term air pollution. State its effects.

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- 9 List any three natural sources and three man made sources of air pollution.
- 10 What is meant by zoning ?

PART - B

10×5=50

Instructions :

- (1) Answer any **FIVE** questions.
- (2) Each question carries **TEN** marks.
- (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11 (a) What is meant by combined system and list two merits of and demerits?
- (b) The catchment area of a town is 100 hectares out of which 30% with water tight Roofs, 15% Asphalt roads, 25% unpaved streets, 30% with lawns and gardens. The Impermeability factors are 0.9, 0.85, 0.15 and 0.12 respectively. Calculate the storm water flow for rainfall intensity of 40 mm/hr by rational method.
- 12 Calculate the size of a combined sewer of a circular section, given the following particulars.

System to be adopted : Combined

Area to be served = 80 hectares

Population = 1,20,000

Rate of water supply = 120 lit/head/day

Time of entry = 3 minutes

Time of flow = 12 minutes

Impermeability factor = 0.5

Max velocity permissible = 2.5 m/s

Max discharge = Twice the DWF

- 13** Briefly describe inverted syphon, its function and location.
 - 14** Design a septic tank for a group of houses with a population of 150 persons with rate of water supply being 100 lpcd.
 - 15** What are the methods of disposal of sewage and explain any two methods in detail ?
 - 16** Sketch the layout of drainage arrangements in multistoried buildings and name the components.
 - 17** Describe the method of composting and give merits of the same.
 - 18** Explain the working of 'JANATA' model bio-gas plant, with sketch.
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