



c09-c-605

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BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2016

DCE—SIXTH 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) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. What is dry weather flow? State the factors affecting it.
2. What are the merits and demerits of circular sewers?
3. Distinguish between grab sampling and composite sampling.
4. Explain 'proportioning' in the treatment of industrial sewage.
5. What are the different methods of preliminary treatment of sewage?
6. Write about 'uncontrolled dumping' of solid waste.
7. Define (a) soil pipe, (b) waste pipe and (c) vent pipe.

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8. Write three advantages of biogas plants.
9. Draw a neat sketch of 'gravity setting chamber'.
10. Give any three examples for controlling air pollution by 'change in process'.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain water carriage system. Also give the merits and demerits of the system. 3+7=10
12. The catchment area of a town is 250 hectares having different types surfaces as given below :

S.NO.	Surface type	Run off coefficient	area
1	Water tight roofs	0.90	35%
2	Asphaltic pavements	0.85	10%
3	Macadamized roads	0.40	15%
4	Unpaved streets	0.15	20%
5	Lawns	0.12	15%
6	Vacant plots	0.10	5%

Design a sewer to carry only storm water taking Mannings $n = 0.013$ gradient $i = 0.01$ and storm duration as 18 minutes. 10

13. Explain the components of a sewage pumping station with a neat sketch. 10
14. Explain the activated sludge process with the help of a flow diagram. 10

15. (a) Mention any six methods of sludge disposal. 3+7=10
- (b) Design a septic tank for a hostel of 250 inmates. The rate of water supply is 100 lpcd. Take detention period as 24 hrs and $\frac{L}{B} = 2.5$.
16. Explain the different methods of collecting solid waste. 10
17. Explain the following with neat sketches : 5+5=10
- (a) Floor trap
- (b) Intercepting trap
18. (a) Explain Pit-privy with a neat sketch.
- (b) Explain air pollution control by 'zoning'. 5+5=10
