



C14-C-602

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BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
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. State any three objectives of sewerage works.
2. Explain any three factors affecting dry weather flow.
3. State two merits and two demerits of circular-shaped sewers.
4. State any three functions of using ventilating shafts on sewers.
5. List any six components of a sewage pumping station.
6. Give the significance of the following tests on sewage :
 - (a) Solids
 - (b) BOD
7. List any six methods of sludge disposal.

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8. State any two merits and two demerits of uncontrolled dumping of solid waste. $1\frac{1}{2}+1\frac{1}{2}=3$
9. State any three advantages of biogas plants.
10. List any three natural and three manmade sources of air pollution. $1\frac{1}{2}+1\frac{1}{2}=3$

PART—B

$10 \times 5 = 50$

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. (a) Compare conservancy and water-carriage systems in any five aspects. 5
 (b) State any five requirements of good surface drain. 5
12. (a) List any six sewer appurtenances. 3
 (b) Explain the method of laying sewers. 7
13. (a) State any four characteristics of industrial wastewater and give their effects. 4
 (b) Design a circular clarifier to treat sewage from a town of 1 lakh population. The rate of sewage is 180 l.p.c.d. Assume any other data required. 6
14. (a) State any three functions of screens in sewage treatment. 3
 (b) With the help of a flowchart, explain the treatment of sewage by activated sludge process. $3\frac{1}{2}+3\frac{1}{2}=7$
15. (a) Give the classification of solid waste based on its origin and properties (*four* types under each head). $2+2=4$
 (b) Briefly explain the Indore method of composting. 3
 (c) List any six equipments used in mechanical composting of city refuse. 3

16. (a) ^{*} State any five requirements of good building drainage system. 5
- (b) With the help of a sketch, explain the one-pipe system of plumbing. $2\frac{1}{2}+2\frac{1}{2}=5$
17. (a) Briefly explain about a borehole latrine/privy. 3
- (b) With the help of a sketch, explain the working of a KVIC model biogas plant. $4+3=7$
18. (a) State any two effects each of air pollution on (i) physical properties of atmosphere and (ii) plants. $2+2=4$
- (b) With the help of a sketch, explain how polluted air is cleaned in a spray chamber. $3+3=6$

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