



C14-C-502

4613

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DCE - V SEMESTER EXAMINATION

ENVIRONMENTAL ENGINEERING-I

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 and shall not exceed five simple sentences.

- 1 Define 'Ecosystem', State different Components of Ecosystem.
- 2 Draw the flow chart of typical water supply scheme.
- 3 What is population forecasting? Mention any three methods.
- 4 Define terms (i) Aquifer (ii) Aquiclude (iii) Ground water table.
- 5 Show the Socket and spigot joint used in connecting pipes with a sketch.
- 6 Write two Differences between Grab Sampling and Composite Sampling.
- 7 Define : (i) E-coli index (ii) Most Probable Number.
- 8 State three methods of removal of taste, colour and odour of water.
- 9 Draw the sketch showing connections from water main to building.
- 10 State the function of (i) Reflux valve (ii) Sluice valve (iii) Fire Hydrant.

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[Contd...

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.

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| 11 | (a) State different factors affecting per capita consumption of water and
(b) Explain any three factors in detail. | 4+6 |
| 12 | Explain (i) Lake intake and (ii) Reservoir intake, using sketches | 5+5 |
| 13 | (a) State two merits and two demerits of Plastic Pipes.
(b) Write the function of Infiltration galleries and infiltration wells.
(c) Draw neat sketches of each showing the details. | 4
2
4 |
| 14 | (a) Explain the principle of plain sedimentation
(b) Explain the construction and working of Rapid Sand Filter. | 3
7 |
| 15 | (a) Draw the flow diagram of typical water treatment plant.
(b) List different methods of disinfection and explain Break point chlorination. | 4
3+3 |
| 16 | (a) State any five requirements of good water distribution system.
(b) Briefly explain combined system of supplying water. | 5
5 |
| 17 | (a) Write two merits and two demerits of grid iron system of distribution of water.
(b) Write any six requirements of providing service reservoirs in water distribution system. | 4
6 |
| 18 | (a) Briefly explain any three methods for leakage detection in water distribution works.
(b) Differentiate communication pipe and Distribution pipe. | 6
4 |