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C14–C—502

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2017

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

1. Define the term 'ecology'.

2. State the factors on which total requirement of water depends.

3. Define per capita demand.

4. State the classification of sources of water.

5. Define the term 'aquifer'.

6. Expand EDTA. What can be determined by EDTA in testing water sample?

7. Define pH value.

8. Define disinfection of water.

9. What are different types of service reservoirs?

10. Define service pipe and distribution pipe.

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. Estimate the future population of a town in 2040 by arithmetic method and incremental increase method from the following :

Year	:	1950	1960	1970	1980	1990	2000	2010
Population	:	70215	78500	85325	90900	105000	112110	11500

12. Describe briefly the construction and working of an infiltration well with the help of a neat sketch.

13. Explain the canal intake with a neat sketch.

14. *(a)* List any five objectives of treatment of water.

(b) Define aeration and list any three objectives.

15. Explain the working of a slow sand filter with a neat sketch.

16. Explain the following with the help of sketches :

(a) Sluice valve

(b) Check valve

17. What are the requirements of a good distribution system?

18. Draw a neat sketch showing all details of a water connection taken from the water main to the building.

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