C14-C–502

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BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DCE - FIFTH SEMESTER EXAMINATION

ENVIRONMENTAL ENGINEERING - I

Time : 3 hours] [*Total Marks* : 80

PART—A

4×5=20

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

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

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define *(a)* Environment and *(b)* Pollution.

2. State any three objectives of a water supply scheme.

3. State any six factors affecting per capita demand.

4. Define the terms cone of depression and drawdown.

5. Define spring. State the types of spring.

6. Define temporary hardness in water.

7. State any four objectives of treatment of water.

8. State any four methods of disinfection of water.

9. Define *(a)* Water main and *(b)* Service pipe.

10. Define *(a)* Distribution pipe and *(b)* Goose neck.

PART—B

15×4=60

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

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

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

11. From the census data of a town given below, estimate the population of the town in the year 2050. Find the total quantity of water required per day in the year 2070, if the per capita consumption is 180 LPCD. Use geometrical increase method :

Year	2000	2010	2020	2030	2040	2050	2060
Population	25000	43000	53000	62000	71000	85000	97000

12. How do you conduct *(a)* pumping test and *(b)* recuperation test to determine yield of well?

13. Compare between infiltration gallery and infiltration well.

14. Define the term hardness. What is its significance in water supply system? Name the tests to determine hardness.

15. Compare and contrast between slow sand filters and rapid sand filters.

16. State principles and precautions to be taken in laying pipelines within the premises of building.

17. Draw a neat sketch of water supply arrangement in single-storied building and name various component parts.

18. What are the duties of site engineer in construction of a building?

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