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Name.................................

Reg. No.............................

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2010

CE 04 703—ENVIRONMENTAL ENGINEERING

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

Part A

1. Describe the measurement and control of evaporation.

2. List and explain the sources of water.

3. Explain the importance of chemical and bacteriological analysis of water used for domestic purposes.

4. What is the importance of pH value in water analysis ?

5. What is meant by flocculation ?

6. What is the necessity of using coagulants in sedimentation ?

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

8. List out the factors to be considered for selecting a pump.

(8 × 5 = 40 marks)

Part B

9. With neat sketch, explain any *two* types of intake structure. (15 marks)

Or

10. What is meant by evapotranspiration ? And explain the measurement of it. (15 marks)

11. Explain any *two* water harvesting methods available. (15 marks)

Or

12. Estimate the population of a city in 2020 by geometrical increase method.

Year	...	1951	1961	1971	1981	1991
Population	...	1,520,000	1,841,000	2,100,000	2,332,000	2,445,000

(15 marks)

13. Write short notes on :

    (a) Fluoridation. (8 marks)

    (b) Defluoridation. (7 marks)

Or

Turn over

14. Explain the methods of removal of iron and manganese from water.   (15 marks)

15. Estimate the hydraulic gradient in a 2 m diameter smooth concrete pipe carrying a discharge of 3 cumecs at 10° C temperature by using :

    (i)   Darcy-Weisbach formula.

    (ii) Manning's formula.

                                                                       (15 marks)

Or

16. With suitable examples, explain any *one* method of analysis of pipe networks.   (15 marks)

                                                          (4 × 15 = 60 marks)