

3426
BOARD DIPLOMA EXAMINATION, (C-09)
JUNE - 2019
*** DIPLOMA IN CIVIL ENGINEERING**
ENVIRONMENTAL ENGINEERING - I
FOURTH SEMESTER EXAMINATION

Time: 3 Hours**Total Marks: 80**

PART - A (10 x 3 = 30 Marks)

Note 1: Answer all questions and each question carries 3 marks

2: Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. How the Ozone layer is depleted by CFC's.
2. What is peak demand? State different variations in rate of demand.
3. List any six factors which affect the per capita demand.
4. State any three preventive measures of pipe corrosion.
5. Draw the sketch of a collar joint for cement concrete pipes and label the parts.
6. Briefly explain a turbidity rod and its use to find the turbidity of water.
7. List any six methods of disinfection.
8. List any four functions of service reservoirs in a distribution system.
9. State the function and location of the following.
 - a) Ferrule
 - b) Coupling
 - c) Dummy
10. Define the terms:
 - a) Distributiob pipe
 - b) Back flow
 - c) Supply pipe

PART - B (5 x 10 = 50 Marks)

Note 1: Answer any five questions and each question carries 10 marks

2: The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. a) Compare the three systems of forecasting population regarding the computed values and the circum stance in which each method can be used. 3 Marks
- b) From the census data of a town given below, estimate the population of the town in the year 2011. Find the total water quantity required per day in the year 2011, if the per capita consumption is 150. Use Geometrical increase method pcd. 6+1= 7 Marks

Year	1931	1941	1951	1961	1971	1981	1991
Population	21,600	28,550	37,850	46,500	56,450	65,780	77,350

12. a) Briefly explain about a sunk well. 3 Marks
- b) What is confined and unconfined aquifer? Explain with help of a neat sketch. 2+2=4 Marks
- c) Compare surface and subsurface sources of water in any three aspects. 3 Marks

13. (a) Define aeration and list any four types of aerators. 4 Marks
 (b) State the need for coagulation and list any four coagulants. 4+2=6 Marks
14. a) Differentiate temporary hardness and permanent hardness. 3 Marks
 b) Explain the construction and working of a zeolite filter to remove hardness. 3+4=7 Marks
15. (a) List any six requirements of a good disinfectant. 6Marks
 (b) With the help of a neat sketch explain breakpoint chlorination. 2+2= 4
16. a) List any five merits and three demerits of Dead end system. 4 Marks
 b) Explain with the help of neat sketch about Grid iron system of layout in distribution. 3+3=6 Marks
17. a) With the help of a sketch explain the working of (i) Gate valve (ii) Check valve (iii) Air valve 6 Marks
 b) State the function and Location of the above appurtenances. 4 Marks
18. a) List any ten principles & precautions to be observed while laying pipe line in a building. 5Marks
 b) Draw a neat sketch of water supply arrangements in a single storied building and name various components. 2 ½ + 2 ½ = 5 Marks

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