

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, APRIL - 2024**

**ENVIRONMENTAL ENGINEERING**

[Maximum marks: 100]

[Time: 3 Hours]

**PART – A**

**Maximum marks: 10**

**I.** (Answer *all* the questions in one or two sentences. Each question carries **2** marks)

1. List any two subsurface sources of water.
2. Define superchlorination.
3. List any two layouts of water distribution systems.
4. Define sullage.
5. List any two secondary treatment methods of sewage. (5 x 2 = 10)

**PART – B**

**Maximum marks: 30**

**II.** (Answer any *five* of the following questions. Each question carries **6** marks)

1. List the different types of water demands of a city or a town.
2. Explain recuperation method of determination of yield of a well.
3. Explain the objectives of aeration.
4. List the effects of pipe corrosion.
5. Describe strength of sewage.
6. Explain activated sludge process.
7. List the effects of air pollution. (5 x 6= 30)

**PART – C**

**Maximum marks: 60**

(Answer *one full* question from each unit. Each full question carries **15** marks)

**UNIT – I**

**III.** (a) Explain infiltration well with a neat sketch. (7)

- (b) Predict the population for the year 2021, 2031 and 2041 from the following data using arithmetical increase method. (8)

Year	1961	1970	1981	1991	2001	2011
Population	8,58,545	10,15,672	12,01,553	16,91,538	20,77,820	25,85,862

**OR**

- IV. (a) Explain the need for testing water. (7)  
(b) Describe the methods to forecast population. (8)

**UNIT - II**

- V. (a) Explain dead end system. List the advantages and disadvantages. (8)  
(b) Explain the types of sedimentation. (7)

**OR**

- VI. (a) Explain necessity and methods of disinfection of water. (7)  
(b) Explain slow sand filter with a neat sketch. Mention its merits and demerits. (8)

**UNIT - III**

- VII. (a) Explain component parts of a pumping station with a neat figure. (9)  
(b) Explain the working of ordinary manhole with a neat sketch. (6)

**OR**

- VIII. (a) Discuss on water carriage system. List the advantages and disadvantages. (8)  
(b) List the objectives of sewerage works. (7)

**UNIT - IV**

- IX. (a) Describe imhoff tank with a neat figure. (7)  
(b) Briefly describe the working of intermittent sand filters. (8)

**OR**

- X. (a) Explain requirements of good drainage system in a building. (7)  
(b) Explain with figure disposal of sewage using a septic tank. (8)

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