

**SIXTH SEMESTER DIPLOMA EXAMINATION IN CIVIL ENGINEERING****MODEL QUESTION PAPER****ENVIRONMENTAL ENGINEERING**

(Maximum Marks:100)

Time: 3hours

**PART- A**

Marks

I Answer the following questions in one or two sentences. Each question carries 2marks.

1 What are the different types of wells according to construction?

2 What is meant by superchlorination?

3 List any four objectives of sewerage works.

4 What is the purpose of a flushing tank?

5 What is sludge digestion?

(5X2=10)

**PART - B**

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

1 Explain the construction of infiltration well with the help of a neat sketch.

2 Briefly discuss any three methods to control taste, odour and colour of water.

3 What are surface drains? Show the common shapes adopted for surface drains using suitable sketches.

4 List the various methods of disposal of solid waste. Describe briefly on any two of them.

5 Describe briefly on variations in demand of water.

6 Explain the methods of obtaining water sample for testing.

7 State the requirements of a good building drainage system.

(5X6=30)

## PART – C

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

III (a) The following is the population data of a city, available from past census records.

Determine the population of the city in 2020 by geometrical increase method. (8)

Year	1940	1950	1960	1970	1980	1990	2000
Population	13500	17500	28300	43000	59000	69500	75600

(b) Explain the factors affecting the rate of consumption of water. (7)

**OR**

IV (a) Write the advantages and disadvantages of plastic pipes. (8)

(b) Explain canal intake with the help of a neat sketch. (7)

### UNIT - II

V (a) Bring out the differences between a rapid sand filter and a slow sand filter. (8)

(b) Discuss zeolite process for hardness removal. (7)

**OR**

VI (a) Explain with neat sketches the different systems of distribution. (8)

(b) Write short notes on: (i) service pipe (ii) Ferrule (iii) Air valves (7)

### UNIT – III

VII (a) List any two advantages and disadvantages of circular and rectangular sewers. (8)

(b) Compare combined and separate sewerage systems. (7)

**OR**

VIII(a) Explain the method of collecting samples and precautions taken in sampling of

sewage.

(8)

- (b) Explain the component parts of a sewage pumping station with the help of a neat sketch. (7)

#### UNIT – IV

- IX (a) Explain the construction and operation of septic tank with the help of a neat sketch. (8)
- (b) Briefly describe oxidation ponds. (7)

*OR*

- X (a) Describe with sketches the construction of any two types of sanitary latrines in rural areas. (8)
- (b) Define air pollution. What are the natural sources of air pollution? (7)