

FOURTH/SIXTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY
OCTOBER- 2016
ENVIRONMENTAL ENGINEERING
[for IV Semester EN,WR and for VI semester CE,QS]

Maximum Marks : 100

Time : 3 Hrs

PART-A

(Maximum marks: 10)

Marks

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

- 1 Define per capita demand of water.
- 2 What is break point chlorination?
- 3 Define sullage.
4. What is meant by strength of sewage?
- 5 What are cess-pools?

[5x2 =10]

PART - B

(maximum marks : 30)

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

1. The following is the population data of a city, available from past census records. Determine the population of the city in 2021 by arithmetical increase method.

Year	1941	1951	1961	1971	1981	1991	2001
Population	15000	19000	29800	44500	60500	71000	77100

2. With the aid of a flow diagram briefly discuss the various units in water treatment process.
3. Explain rectangular sewer with the help of a neat sketch and list any two merits and demerits.
4. What is a skimming tank? Discuss its working with the help of a neat sketch.
5. Write short note on aerated lagoons.
6. Describe briefly on continuous and intermittent systems of water supply. Mention any two advantages and disadvantages of each of them.
7. Briefly explain the pigot and socket joint in pipes.

[5x6 =30]

PART - C

(maximum marks : 60)

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

UNIT I

- III (a) Define (i) aquifer (ii) specific yield of well (iii) intakes (iv) cone of depression [8]
(b) Mention and describe the various purposes for which water is supplied to a modern industrial town. [7]

OR

- IV (a) Explain how corrosion of pipes can be prevented. [8]
(b) Explain infiltration gallery with the help of a neat sketch. [7]

UNIT- II

- V (a) With the aid of a neat sketch explain the working of a rapid sand filter. [8]
(b) List the objectives of aeration. [7]

OR

- VI (a) Briefly explain the principal methods of laying out distribution system. (8)
(b) Draw a neat sketch showing all the details of a water connection taken from the water main to the building. (7)

UNIT- III

- VII (a) What is meant by water carriage system and what are its advantages and disadvantages. (8)
(b) What is dry weather flow and briefly explain the factors on which it depends? (7)

OR

- VIII (a) List the characteristics of sewage. (8)
(b) Explain a drop manhole with the aid of a clearly labelled diagram. (7)

UNIT – IV

- IX (a) What is activated sludge process? Give its advantages and disadvantages. (8)
(b) List the various methods of solid waste disposal. Write briefly on any two methods. (7)

OR

- X (a) Explain the construction and working of a biogas plant using cow dung with the aid of a neat sketch. (8)
(b) What are the various sources of air pollution? (7)

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