Total No. of Questions : 4]

SEAT No. :

P5016

[Total No. of Pages : 2

[6187]-416
T.E. (Civil) (Insem)
WATER SUPPLY ENGINEERING
(2019 Pattern) (Semester - I) (301002)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4.***
2) ***Each question carries equal marks.***
3) ***Figures to the right indicates full marks.***
4) ***Use of calculator is allowed.***
5) ***Assume suitable data, if necessary.***

Q1) a) Predict the population for the year 2041 from the following population data. By using **[6]**

i) Arithmetic increase method

ii) Incremental Increase method.

Year	1961	1971	1981	1991	2001	2011
Population	8,58,545	10,15,672	12,01,553	16,91,538	20,77,820	25,85,862

b) Enlist the data required for the water supply scheme? **[4]**

c) Define Design periods? State and explain the factors affecting design periods **[5]**

OR

Q2) a) Find the fire demand for town having population 25 lakh. Using various formulae such as **[6]**

i) Kuichling's Formula.

ii) Freeman Formula

iii) National Board of Fire formula

iv) Buston formula.

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b) Describe the different phases involved in water supply scheme. **[4]**

c) Explain in detail the importance of water infrastructure. **[5]**

Q3) a) What is mean by discrete particles? Explain the concept of sedimentation. **[5]**

b) Design a Cascade Aerator for maximum demand of water is 125 MLD. Assume inlet pipe diameter is 1.1 m, draw plan and elevation of the aeration fountain. **[6]**

c) What is the principle of sedimentation? Enlist the various factors affecting sedimentation. **[4]**

OR

Q4) a) What mean by aeration? Explain the significance of area and its limitations. **[5]**

b) Define screening? State various types of screens used for screening the water. Describe any one with sketch. **[4]**

c) Find the dimension of a circular sedimentation tank from the following data. **[6]**

i) Detention period = 4 hrs.

ii) Quantity of water to be treated = 3 million liters per day.

iii) Depth of water = 3 m.

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