Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CE-603 (GS)

B.E. VI Semester

Examination, May 2018

Grading System (GS)

Environmental Engineering - I

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.
iii) Assume any missing data if required.

1. Enlist different methods of population forecasting of a town Predict the population for the year 2021, 2031 and 2041 from the following population data.

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

Explain and compute by Arithmetical increase and Geometrical Increase method.

2. Explain physical, chemical and bacteriological impurities present in water and their significance.

3. Compare IS standards of water quality with WHO standards of drinking water.

4. A rectangular sedimentation tank with length of 15m, width of 6m and depth 3m is to treat 2.40×10^6 ml/day Calculate:
   a) Detention period of Tank
   b) Average flow of velocity through Tank

5. Write short notes on the following:
   a) Theory of filtration
   b) Types of Hardness in water and its removal
   c) Purpose of sedimentation
   d) Advantage and disadvantage of coagulation

6. What do you mean by "Pipe Appurtenances"? Explain important appurtenances in pipelines.

7. Compare one pipe and two pipe system of plumbing in residential building.

8. Answer any four of the following:
   a) What is mean by the term 'per capita demand'? How is it estimated?
   b) What are water borne diseases? Discuss the control of it.
   c) Write down various methods applied for removal of permanent hardness of water? Write down the advantages and disadvantages of any two method.
   d) Describe Hardy cross method and its use.
   e) Comparison between slow sand filter and rapid sand filter.
   f) Explain water pollution control act in detail.

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