Total No. of Questions : 8] *[Total No. of Printed Pages : 1*

Roll No .....

CE-603 (GS)

B.E. VI Semester Examination, June 2020

Grading System (GS)

Environmental Engineering - I

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. In two periods each of 20 years a city population grew from 30000 to 172000 to 292000. Find Saturation Population, the coefficient of logistic equation and the expected population in the next 20 years.

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

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

4. What is meant by water born disease? Explain in detail mentioning various micro-organisms and their respective diseases and their symptoms.

5. Show that the settling velocity of a spherical particle in a liquid under condition when "Reynolds number" is less than 0.5 is given by

$$V_s = \frac{9}{18}\frac{(S_s - 1)d^2}{\mu}$$

6. Describe the Jar test experiment to determine the optimum dose of coagulant. Also draw sketch.

OR

Write short notes on Hardy Cross-method and Fire hydrants.

7. Describe in brief various important test conducted for chemical examination of water.

OR

What are intakes? What are the important factors which govern the selection of an intake? Explain with sketch reservoir intake.

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

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