Code No: R1632013 **R16** SET - 1

III B. Tech II Semester Regular/Supplementary Examinations, October/November - 2020

ENVIRONMENTAL ENGINEERING – I

(Civil Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A (14 Marks)

1. a) What are the factors governing the design period? [2M]
   b) What are the requirements of a good distribution system? [2M]
   c) What major precautions are taken in handling and laying water pipelines? [2M]
   d) How can you classify filters into different categories? [3M]
   e) What is Chlorination? [3M]
   f) List the materials used for pipes and pipe joints. [2M]

PART –B (56 Marks)

2. The population figures of a town during the four decades i.e. 1960, 1970, 1980 and 1990 are 25000, 30500, 35500 and 42000 respectively. Predict its population in the year 2000 and compare the results through Arithmetical progression, Geometrical progression, Incremental increase method and Decreasing Rate method. [14M]

3. What are intakes? Explain any two intake structures with neat sketches. [14M]

4. Mention the common impurities in water which should be taken into account in deciding the portability of the water sample. Describe the essential tests to be performed on such a sample. [14M]

5. a) Explain with a neat sketch, the working of a continuous flow-type sedimentation tank. [7M]
   b) Explain the principle of coagulation. [7M]

6. a) Determine the size of a Flocculator and Clarifier to treat 1 million liters of water per day. [7M]
   b) Explain the need and methods for softening and disinfection of water. [7M]

7. Explain the hardy cross method used for pipe network analysis in the water distribution system. [14M]

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