

III B. Tech II Semester Supplementary Examinations, April - 2021
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**

PART –A**(14 Marks)**

1. a) Define design period. [2M]
- b) Write on Mass curve analysis. [2M]
- c) What is WHO? [2M]
- d) Define water softening. [3M]
- e) Give any two methods of leak detection in pipes. [3M]
- f) What are “Air Valves”? [2M]

PART –B**(56 Marks)**

2. Discuss the various Physical, Chemical and Biological characteristics of water. [14M]
3. In two periods each of 20 years a city has grown from 50000 to 110000 and 160000. Find the population expected in the next 20 years and also the saturation population. [14M]
4. a) Write a note on iron removal from water for small communities. [7M]
- b) Explain about I.S. Drinking water quality standards. [7M]
5. Design a sedimentation tank for water treatment plant to treat 8 MLD of water. [14M]
 Assume a surface loading rate of $30 \text{ m}^3/\text{m}^2/\text{day}$. Check the adequacy of detention time. Draw the plan of the water treatment plant.
6. a) With a neat sketch (cross section) explain the working of a slow sand filter. [7M]
- b) Write a short note on “break point chlorination”. [7M]
7. Describe the various methods for laying the distribution lines. [14M]
