II SEMESTER B. TECH ASSIGNMENT, JAN - MAY, 2024

ENGINEERING CHEMISTRY (CHM_1071)

Start Date: 1ST APRIL, 2024   **End date: 8TH APRIL, 2024**   **Max. Marks: 10**

INSTRUCTIONS:

1. *Use a plain sheet and mention the page number for each page.*

2. *Write your Full name, Application Number, Section and Branch Name.*

3. *Draw diagram wherever it is necessary.*

WATER TECHNOLOGY

1. What are the causes of the hardness of water? Write the balanced chemical equation for the formation of scum when soap is added to water.

2. Distinguish between the temporary and permanent hardness of the water. Explain the removal of the temporary hardness of water.

3. Give reason: The water softened by boiling turns in to hard water upon leaving for long time without removing the precipitate.

4. Calculate the permanent hardness of water if the volume of EDTA consumed is 25 ml for 50 ml of the water sample.

5. Differentiate between scale and sludge. Mention two disadvantages of sludge and scale formation.

6. Discuss the internal prevention treatment methods of scale formation.

7. Explain priming and foaming. Describe the preventive measures taken to avoid priming and foaming.

8. What is the principle in the estimation of the total hardness of water by the EDTA method.

9. Explain the hot lime soda process with a process diagram. Give any two advantages and disadvantages.

10. Describe with a schematic diagram, the following processes used for the desalination of waste water

i) Reverse Osmosis

ii) Electrodialysis