

(Please Write your Roll No. immediately)

Roll No. E-015

CLASS TEST

B. Tech-Semester 1

February 2023

Paper Code: BS-103

Subject : Applied Chemistry

Time: 1:30 hour

Max. Marks : 30

NOTE: Q.1 is compulsory. Attempt ^{two} ~~one~~ more question from the rest.

- Q.1
- What do you mean by Blow-Down Operation?
 - What are zeolites? How the exhausted zeolite bed is regenerated?
 - What is atom economy? Explain with an example.
 - Explain the Electrochemical series.
 - What are nanomaterials? Give some examples.

2*5=10

- Q.2
- What do you understand by Hardness of water? Explain its types. How the hardness of water is determined by EDTA titration method?
 - A sample of water was alkaline both to phenolphthalein and methyl orange indicator. 100 ml of this water sample required 15 mL of N/50 H_2SO_4 for phenolphthalein end point and another 15mL for complete neutralization. Calculate the type and amount of alkalinity in ppm in $CaCO_3$ equivalents.

6+4=10

- Q.3
- Explain the Tools of green technology with example.
 - Give an account of the applications of nanoparticles?
 - Explain the mechanism of Dry Corrosion by oxygen gas.

4+3+3=10

Q.4 Write short note on the following

a. Calgon Conditioning

b. Tinning

c. Zero waste Technology

c. TEM

2.5*4=10

$$P < \frac{1}{2} M$$
$$150 < \frac{300}{150}$$
$$P = 0$$
$$P = \frac{150}{150}$$

150

$$\frac{150}{150} \times 2$$
$$\frac{300}{300}$$

$$\frac{150}{150}$$
$$\frac{150}{150}$$
$$\frac{300}{300}$$