CE/EC/EEE/ME 112 (R-22)

Total No. of Questions : 10] [Total No.of Pages : 02

I/IV B. Tech. DEGREE EXAMINATIONS, MARCH - 2023

First Semester

CE / EC / EEE / ME

ENGINEERING CHEMISTRY

Time : **Three Hours** Maximum : **70** Marks

Answer All Questions

Answer ONE question from each Unit. 5x14=70 M

UNIT - I

1. a) What is EDTA ? Write its structure and explain it.

   b) What is reverse osmosis ? Explain the methodology behind it.

(OR)

2. a) Explain the folowing :

   (i) Sedimentation.

   (ii) Break Point chlorination.

   b) What is boiler feed water ? What are the basic requirements ?

UNIT - II

3. What are the nano chemistry emerges in the real time applications ? Explain in detail preparation of nano material ? Give the advantages.

(OR)

4. a) Describe the functionality of monomers in detail.

   b) Explain with properties of BUNA-S rubber.

UNIT - III

5. a) Give the importance of Lithium battery. Explain the basic principles of it.

   b) Explain about H_2-O_2 cell ? Give its applications and advantages.

(OR)

P.T.O.

6. a) What are the basic reasons behind the corrosion and explain electro chemical corrosion?

   b) What are the methods of corrosion prevention or control ? Explain.

UNIT - IV

7. Explain in detail the theory of NMR spectroscopy ? What information can be obtained from NMR absorption peaks ?

(OR)

8. Write the basic principles of IR spectroscopy. Describe various molecular vibrations in the technique, discuss its applications.

UNIT - V

9. a) Explain the manufacturing process and hardening cement.

   b) Write synthesis and uses of paracetamol.

(OR)

10. What are SN_1 and SN_2 reactions. Write the mechanism with suitable examples and their stereochemistry.