AM/CS/CYS/DS 122 (R-22)

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

I/IV B. Tech. DEGREE EXAMINATIONS, AUGUST - 2024

Second Semester

AM / CS / CYS / DS

ENGINEERING CHEMISTRY

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

Answer ONE Question from each Unit.

All Questions carry equal marks. 5x14=70 M

UNIT - I

1. a) Explain with neat diagram, electro dialysis method of desalination of brackish water.

   b) Outline internal conditioning methods.

(OR)

2. a) Discuss about ion-exchange method.

   b) What are the specifications of drinking water given by WHO.

UNIT - II

3. a) Explain addition polymerization with examples.

   b) Explain the preparation, properties and engineering applications of BUNA-S.

(OR)

4. a) Discuss about conducting polymers.

   b) Explain the preparation of carbon nano tubes.

UNIT - III

5. a) Derive Nernst equation.

   b) Explain with examples how cathodic protection can be used to protect iron.

(OR)

6. a) Explain the construction and working of dry cell.

   b) Describe wet corrosion theory.

P.T.O.

UNIT - IV

7. a) Mention the applications of UV spectroscopy.

   b) State and derive Beers - Lambert's law.

(OR)

8. a) Explain the principle and applications of Gas chromatography.

   b) Discuss the applications of HPLC technique.

UNIT - V

9. a) What are the constituents of cement. Explain setting and hardening of cement with suitable chemical reactions.

   b) Explain the synthesis of Paracetmol.

(OR)

10. a) Explain the mechanism of SN1 reactions with examples.

    b) Explain the mechanism of E1 reactions with examples.