

UNIT - IV

8. (a) What are thermosetting resins ? Give the preparation, properties and uses of PF and UF (Phenol Formaldehyde and Urea Formaldehyde). 15
- (b) Write a short note on silicones. 5
9. (a) Write a short note on IR spectroscopy. 10
- (b) Explain the principle of DTA. 10

Roll No. _____

24005

B. Tech. 1st Semester (Common for All Branches) Examination - February, 2022

ENGINEERING CHEMISTRY

Paper : CH-101-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is compulsory. Attempt five questions in all selecting one question from each Unit. All questions carry equal marks.

1. Attempt following questions : 2 × 10 = 20
- (a) Define incongruent melting point.
- (b) Explain the concept of promoters.
- (c) Write short note on ion exchange process.

- (d) Define Viscosity.
- (e) Define Acid value.
- (f) What is Homogenous catalysis ?
- (g) Explain Lambert beer's law.
- (h) What are elastomers ?
- (i) Define thermoplastic polymer.
- (j) What is hardness of water ?

UNIT - I

- 2. (a) Explain the phase rule of One Component by using water system with suitable diagram. 15
- (b) Explain the absorption theory of heterogeneous catalyst with suitable example. 5
- 3. (a) Draw a well labeled phase diagram of Zn-Mg system and explain its feature. 15
- (b) Write short note on inhibitors. 5

UNIT - II

- 4. (a) Explain in brief hardness of water and its method of determination. 10

24005-1100-(P-4)(Q-9)(22) (2)

- (b) What do you mean by the term alkalinity of water ? What are the causes of alkalinity in water ? Write steps for the determination of alkalinity of water due to temporary hardness. 10
- 5. (a) What do you understand by electro-dialysis ? How does it help in desalination of brackish water ? 10
- (b) Write a short note on : 5 × 2 = 10
 - (i) Boiler corrosion
 - (ii) Caustic Embrittlement

UNIT - III

- 6. (a) Explain the mechanism of wet corrosion. 10
- (b) Write a short note on : 5 × 2 = 10
 - (i) Soil corrosion
 - (ii) Galvanic corrosion
- 7. (a) What are lubricants ? How they are classified ? Explain with example. 10
- (b) Write short note on : 5 × 2 = 10
 - (i) Flash and fire point
 - (ii) Iodine value

24005-1100-(P-4)(Q-9)(22) (3)

P. T. O.