

**24005**

**B.Tech. 2nd Semester (F-Scheme)**

**Common for all Branches Examination,**

**July-2022**

**ENGG. CHEMISTRY**

**Paper-CH-101F**

*Time allowed : 3 hours]*

*[Maximum marks : 100*

**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 : 10×2=20**
- (i) Define triple point.
  - (ii) Explain the concept of inhibitors.
  - (iii) Write short note on Ion exchange process.
  - (iv) Define phase rule.
  - (v) Define iodine value.
  - (vi) What is eutectic system?
  - (vii) Explain polymeric composites.
  - (viii) Explain electropainting.
  - (ix) Define thermoplastic polymer.
  - (x) What is Bio degradable polymerization?

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Unit-I

2. (a) Explain the phase rule of One Component by using  $\text{CO}_2$  system with suitable diagram. 15
- (b) Explain the absorption theory of homogenous 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 promoters. 5

Unit-II

4. (a) Explain in brief EDTA process of water softening. 10
- (b) What do you understand by Lime-Soda treatment and Zeolites? 10
5. (a) What do you understand by Reverse Osmosis? How does it help in desalination of brackish water? 10
- (b) Write a short note on : 2×5=10
  - (i) Boiler corrosion
  - (ii) Scale and sludge formation

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Unit-III

6. (a) Explain the mechanism of dry corrosion. 10
- (b) Write a short note on : 2×5=10
  - (i) Saponification number
  - (ii) Galvanization
7. (a) What are lubricants? How they are classified. Explain with example. 10
- (b) Write short note on : 2×5=10
  - (i) Biodegradable lubricants
  - (ii) Acid value

Unit-IV

8. (a) What are thermoplastics polymer? Give the preparation, properties and uses of PVA and PVC. 15
- (b) Write a short note on thermosets. 5
9. (a) Write a short note on Flame photometry. 10
- (b) Explain the principle of TGA. 10

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