

ANURAG Engineering College

(An Autonomous Institution)

I B.Tech II Semester Supplementary Examinations, June/July-2024

ENGINEERING CHEMISTRY

(COMMON TO ECE & CSE)

Time: 3 Hours**Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

| | Course Outcome | B.T Level | Marks |
|-----------------------------------------------------------------------------|-----------------------|------------------|--------------|
| 1. What is bond order formula? | CO1 | L1 | 2M |
| 2. Write the magnetic nature of N ₂ and O ₂ molecules | CO1 | L1 | 3M |
| 3. Mention the characteristics of Potable water | CO2 | L2 | 2M |
| 4. Define Permanent hardness of water? | CO2 | L1 | 3M |
| 5. What is meant by Electroplating | CO3 | L1 | 2M |
| 6. Write the Engineering applications Fuel cells. | CO3 | L1 | 3M |
| 7. What is Saytzeff rule. | CO4 | L1 | 2M |
| 8. Differentiate Enantiomers and Diastereomers | CO4 | L2 | 3M |
| 9. Write the Preparation of PVC | CO5 | L1 | 2M |
| 10. Differentiate thermoplastic and thermosetting polymers. | CO5 | L1 | 3M |

Section B (Essay Questions)**Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

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|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----|
| 11. A) Write the salient features of molecular orbital theory. Draw molecular orbital energy level diagram for N ₂ . | CO1 | L2 | 10M |
| OR | | | |
| B) Write the salient features of Crystal field theory. Describe crystal field splitting of d-orbitals in an octahedral a fields in complexes. | CO1 | L2 | 10M |
| 12. A) Describe the complexometric method to determine the hardness of water? | CO2 | L2 | 10M |
| OR | | | |
| B) Explain the desalination of water by reverse osmosis method. | CO2 | L2 | 10M |
| 13. A) Describe the construction and working of the Calomel electrode. | CO3 | L2 | 10M |
| OR | | | |
| B) Explain the mechanism of Chemical corrosion | CO3 | L2 | 10M |
| 14. A) Discuss conformational analysis of n-butane. | CO4 | L2 | 10M |
| OR | | | |
| B) Discuss in detail about SN ₂ mechanism with suitable example | CO4 | L2 | 10M |
| 15. A) Briefly discuss the process of vulcanization of rubber | CO5 | L2 | 10M |
| OR | | | |
| B) Write about the preparation, properties and applications of i) Polylactic acid (PLA) ii) Polyhydroxy butyrate (PHB) | CO5 | L2 | 10M |