

ANURAG Engineering College

(An Autonomous Institution)

I B.Tech I Semester Supplementary Examinations, Jan/Feb-2024

ENGINEERING CHEMISTRY

(COMMON TO CIVIL, EEE & MECH)

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

	Course Outcome	B.T Level	Marks
1. Mention any two silent features of Crystal field theory.	CO1	L1	2M
2. Write the magnetic nature of N ₂ and O ₂ molecules.	CO1	L2	3M
3. Why do we express hardness of water in terms of CaCO ₃ equivalent?	CO2	L1	2M
4. What is Caustic Embrittlement	CO2	L1	3M
5. What is meant by Galvanising.	CO3	L1	2M
6. Differentiate primary and secondary cells.	CO3	L2	3M
7. What is meant by Enantiomers.	CO4	L1	2M
8. What is Markownikoff addition?	CO4	L1	3M
9. Write the preparation of Buna-S	CO5	L1	2M
10. Mention the applications of Biodegradable polymers	CO5	L1	3M

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

11. A) Write the salient features of molecular orbital theory. Draw molecular orbital energy level diagram for O ₂ .	CO1	L3	10M
OR			
B) Describe crystal field splitting of d-orbitals in an octahedral and tetrahedral field in complexes.	CO1	L2	10M
12. A) Describe the complexometric method to determine the hardness of water?	CO2	L3	10M
OR			
B) Discuss the Ion-exchange process for softening of water	CO2	L3	10M
13. A) Describe the construction and working of the lead-acid cell	CO3	L3	10M
OR			
B) Explain the mechanism of Wet or Electrochemical corrosion	CO3	L2	10M
14. A) Discuss in detail about SN ₁ mechanism with suitable example.	CO4	L3	10M
OR			
B) Write the synthesis and uses of i) Paracetamol ii) Asprin	CO4	L3	10M
15. A) Write about the preparation, properties and applications of i) Bakelite ii) Nylon-6,6	CO5	L3	10M
OR			
B) Briefly discuss the process of vulcanization of rubber	CO5	L3	10M