

ANURAG Engineering College

(An Autonomous Institution)

I B.Tech I Semester Supplementary Examinations, June/July-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. Explain atomic orbital and molecular orbital?	CO1	L1	2M
2. Draw MOED diagram of O ₂	CO1	L2	3M
3. What is scale and sludge?	CO2	L1	2M
4. Write about caustic embrittlement?	CO2	L2	3M
5. What is electrode potential?	CO3	L1	2M
6. Summarize normal hydrogen electrode.	CO3	L2	3M
7. What is anti-Markonikoff's rule?	CO4	L1	2M
8. Define terms, enantiomer and diastereomer.	CO4	L1	3M
9. How to prepare Nylon-6,6?	CO5	L1	2M
10. What are the applications of biodegradable polymers?	CO5	L2	3M

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

11. A) Write about LCAO method.	CO1	L3	10M
OR			
B) Write crystal field splitting patterns of metal ion d-orbital of i) Tetrahedral geometries ii) Octahedron geometries	CO1	L3	10M
12. A) i) What is the theme of desalination of brackish water by reverse osmosis method. ii) Distinguish between temporary hardness and permanent hardness.	CO2	L3	5M 5M
OR			
B) Construct the ion exchange method for softening of water with neat diagram.	CO2	L3	10M
13. A) i) How to determine the P ^H of the solution by calomel electrode. ii) Explain metallic coating by electroplating of copper.	CO3	L3	5M 5M
OR			
B) What is corrosion. Classify the chemical and electro-chemical corrosion.	CO3	L3	10M
14. A) Write preparation method, uses and side effects of Asprin.	CO4	L3	10M
OR			
B) Explain i) Oxidation of alcohols by KMnO ₄ and CrO ₃ ii) Reduction of carbonyl compounds by LiAlH ₄ and NaBH ₄	CO4	L3	10M

15. A) Distinguish between thermoplastics and thermosets. CO5 L3 10M
- OR**
- B) Write structure, properties and applications of poly glycolic and poly lactic acid. CO5 L3 10M