

Department of Applied Sciences

Assignment -I

Branch: B.Tech. ECE/IT/AIDS/AIML/CSE-DS/RAI/CS

Total marks-10

Subject & Subject code: Chemistry-I (25C1CHU-101)

Semester: 1st

Date on which assignment is given: 29.08.25 Date of submission of assignment: 05.09.25

Course Outcomes:

CO1	interpret concepts related to atomic and molecular structure at orbital level as well as categorize various intermolecular forces.
CO2	infer about thermodynamic functions, chemical equilibria, water chemistry and corrosion.
CO3	interpretation of data by using different spectroscopic techniques.
CO4	explain and distinguish different periodic properties of elements such as ionization energy, electron affinity, electronegativity, oxidation state and polarizability.
CO5	classify major organic chemical reactions used for the synthesis of molecules as well as drugs.
CO6	Illustrate three dimensional arrangements and isomers possible for a molecule and their properties.

Bloom's Taxonomy Levels

L1 – Remembering, L2 – Understanding, L3 – Applying, L4 – Analyzing, L5 – Evaluating, L6 - Creating

Assignment related to COs	Marks	Relevance to CO No.	Blooms Levels
Q1. Apply the HSAB principle to predict the outcome of reactions between selected hard and soft acids and bases. Discuss some applications of HSAB principle.	3	CO-4	L-1
Q.2. Examine the mechanism of electrophilic substitution in benzene and evaluate the role of catalyst in Friedel–Crafts alkylation.	3	CO-5	L-4
Q.3. a- Draw pi molecular orbitals of 1, 3-Butadiene and identify HOMO and LUMO. b- Construct the molecular orbital structure of benzene. Also explain delocalization of electrons in the benzene ring.	4	CO-1	L-3