Reg. No | | | | | | | | | | |

AY 24

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR

(GIET UNIVERSITY)

M.Sc. (First Semester - Regular) Examinations, February – 2025

24CHPC1001 - Organic Chemistry-I

(Chemistry)

Time: 3 hrs | Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Explain 2-pentene is more stable than 1-pentene.	CO1	K2
b. Phenol is acidic but cyclohexanol is not. Explain.	CO1	K2
c. Explain Inclusion Complex.	CO1	K1
d. Explain Taft Equation.	CO1	K2
e. Explain stereoselective and stereospecific reactions with example?	CO2	K2

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Define aromatic, anti-aromatic, non-aromatic and give atleast two example for each. Explain aromaticity through benzene and non benzenoid compound.	5	CO1	K2
b. Discuss about the classification, structure, stability and generation of free radical.	5	CO1	K1
(OR)			
c. Draw the structure of cyclooctatetrene ,[14]annulene and [18]annulene. Explain which one is aromatic/anti-aromatic/non-aromatic.	5	CO2	K3
d. Define Resonance effect, Resonance energy and Resonance Hybrid?	5	CO1	K1
3.a. What are the Thermodynamic and kinetic requirements of an organic reactions?	5	CO2	K2
b. Derive Hammett equation to correlate substituent and reaction constant?	5	CO2	K2
(OR)			
c. Explain Curtin-Hammett principle.	7	CO2	K3
d. How do you depict the endothermic and exothermic reaction in a potential Energy Diagram ?	3	CO1	K1
4.a. Discuss the optical activity of biphenyls, allenes and spiranes.	5	CO3	K1
b. Discuss the conformations of Cis- and trans-decaline.	5	CO3	K1
(OR)			
c. Write a note on Racemic Modification.	5	CO2	K3
d. Write short notes on E-Z Notation	5	CO2	K2
5.a. Describe Shapiro reaction write with mechanism.	5	CO3	K3
b. Explain Mannich reaction with Mechanism.	5	CO3	K3
(OR)			
c. Write down Reimer-tiemann reaction with mechanism.	5	CO3	K3
d. Describe Claisen-Schimdth reaction with mechanism.	5	CO3	K3
6.a. Give the brief idea about Semi Pinacole Pinnacolone rearrangement	5	CO4	K4
b. Explain Fries rearrangement with mechanism.	5	CO4	K3
(OR)			
c. Write a note on Sandmayer reaction with mechanism.	5	CO3	K2
d. Write a note on Smiles rearrangement.	5	CO3	K2