MANIPAL
ACADEMY of HIGHER EDUCATION
(Institution of Eminence Deemed to be University)

DEPARTMENT OF SCIENCES, I SEMESTER M.Sc. (Chemistry)
END SEMESTER EXAMINATIONS, December 2023
Organic Chemistry-I [CHM 5102]
(CHOICE BASED CREDIT SYSTEM - 2021)

Scheme of Evaluation MAX MARKS: 50

	Question	Marks	CO	BL
1A	i) Huckel Rule definition (1 M) a) Aromatic b) Aromatic c) Anti-aromatic d) cyclo-octatetraene (2M, 0.5 each) ii) a) Interms of electronegativity (1 M) b) in terms of pKa value (1M)	5	1	2
1B	i) any two differences (2 M) ii) addition product, minor substituted major product (1M)	3	1	3
1C	Briefly explain the following: i) Ortho effect -defination)1M) ii) Any two points (1M)	2	1	3
2A	i) Mechanism – 3 steps along with resonance structure (2 M) ii) Mechanism (2M), limitation any two points (1 M)	5	1	2
2B	two chemical methods -2 M suitable reactions - 1M	3	2	2
2C	i) proper reason – 1M ii) Threo indicates that two identical substituents on each chiral center are located on opposite sides of the molecule. Erythro indicates that the identical substituents on each chiral center are located on the same side of the molecule.- 1M	2	2	2
3A	i) Mechanism – 2 M ii) Write the products obtained for the following reactions. A) Oxidized product b) oxidized product c) reduced product 1M for each	5	3	3
3B	i) Catalyst identification (1M) ii) Mechanism (2M)	3	3	3
3C	Any two uses (2M)	2	3	2
4A	Cotton effect definition (2M) structure (1M) suitable explanation (2M)	5	2	3
4B	Cram's rule explanation (1 M). mechanism vary depending on substituents (2M)	3	2	2
4C	Any model compounds with example. - 2M	2	2	3
5A	Norrish type I & type II reactions using suitable examples – 2M. Predict the product of photolysis of cycloheptanone with suitable justifications – 3 M.	5	4	2
5B	mechanism of Paterno Buchi reaction- 2M. any one evidence to support the suggested mechanism - 1M.	3	4	2
5C	Product identification – 2 M	2	4	3