Roll No.							

25-CH-22

M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
MAY - JUNE 2025

CHEMISTRY

Paper - II

[Organic Chemistry - II]

[Max. Marks : 75] *[Time : 3:00 Hrs.]* *[Min. Marks : 26]*

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt all five questions. Each question carries an internal choice.
Each question carries **15 marks.**

Q. 1 Describe mechanism of following reactions -

i) Aromatic nucleophilic substitution unimolecular.

ii) Benzyne mechanism.

OR

Explain following (**any two**) -

i) Ortho / Para ratio.

ii) Diazonium coupling.

iii) Orientation and reactivity in electrophilic aromatic substitution.

iv) Gatlerman Koch reaction.

Q. 2 What are Free Radicals ? Describe the free radical substitution mechanism by illustrating the halogenation at an alkyl carbon.

OR

Write short note on **any two** -

i) Allylic halogenation by NBS.

ii) Oxidation of aldehydes to carboxylic acids.

iii) Effect of solvent on reactivity.

Q. 3 What is the Hydroboration Reaction ? Explain its mechanism and applications.

P.T.O.

OR

Explain following (**any two**) -

i) Michael reaction.

ii) Addition to cyclopropane ring.

iii) Hydrogenation of double bond.

Q. 4 Explain following (**any two**) -

i) Addition of Grignard reagents.

ii) Perkin reaction.

iii) Ammonolysis of ester.

OR

Write short notes on **any two** -

i) Orientation of double bonds in elimination reaction.

ii) Aldol condensation.

iii) Hydrolysis of esters.

Q. 5 What are Electro Cyclic Reactions ? Draw correlation diagram for disrotatory inter conversion of cyclobutene to butadiene system.

OR

Attempt **any two** of the following -

i) Frontier orbital of ethylene and butadiene.

ii) Wood Ward Hofmann's rule.

iii) Claisen rearrangement.

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