

SEMESTER EXAMINATION 2021
CLASS: M.Sc. SEMESTER I
SUBJECT: CHEMISTRY
PAPER CODE: MCH-C102
PAPER TITLE: GENERAL ORGANIC CHEMISTRY

Time: 3 Hrs.

Max.Marks:70

Min.Pass%:40

Note: Question paper is divided into two sections: **A and B**. Attempt both the sections as per given instructions.

SECTION-A (SHORT ANSWER TYPE QUESTIONS)

Instructions: Answer any five questions in about 150 words each. Each question carries six marks. 5X6=30Marks

Question-1. Give the mechanism of sulfonation reaction in aromatic nucleus.

Question-2. Discuss Aldol Condensation reaction with mechanism.

Question-3. Give the mechanism of Pinacol-Pinacolone Rearrangement reaction.

Question-4. Write the formation, stability and reactions of free radicals.

Question-5. Explain the cycloaddition and sigmatropic shifts reactions.

Question-6. Explain Photoreduction of Ketones in photochemical reactions.

Question-7. Explain the Aromaticity of quinoline.

Question-8. Give the uses of Gillman's Reagent in organic synthesis.

Question-9. Write short note on Asymmetric induction.

Question-10. Explain Reimer-Tiemann Reaction with Mechanism.

SECTION-B (LONG ANSWER TYPE QUESTIONS)

Instructions: Answer any four questions in detail. Each question carries ten marks. 4X10=40Marks

Question-11. Explain Norish type I and II reactions.

Question-12. Describe the following rearrangement reactions with mechanism:

- (1) Wagner Meerwein Rearrangement
- (2) Curtius Rearrangement

Question-13. Explain the Geometrical isomerism and E-Z nomenclature system with suitable examples.

Question-14. Discuss the synthesis, reactions and aromaticity of Indole.

Question-15. Explain with Mechanism:

- (1) Bayer-Villiger Oxidation reaction
- (2) Cannizaro reaction

Question-16. Explain with mechanism any two examples of molecular rearrangement reactions involving electron deficient Nitrogen.

Question-17. Discuss formation, stability, and reactions of:

- (1) Nitrine
- (2) Carbonium ions

Question-18. Write notes on:

- (1) Cope and Claisen rearrangements
- (2) stereoselective and stereospecific reactions.

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