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Total No. of printed pages = 1

Monsoon, 2023

M. Pharm (Pharmaceutical Chemistry) Semester Examinations

ADVANCED ORGANIC CHEMISTRY – I

Course Code: MPC102T

Full Marks – 75

Time – 03 hours

The figure in the margin indicates full marks for the questions.

- 1. Answer the following questions: (5x1=5)**
- Explain the word retrosynthesis.
 - Draw the structure of ketokonazole and Alprazolam.
 - Explain Saytzeff's rule in elimination reaction.
 - Describe reaction intermediates with example.
 - Draw the structure of two heterocyclic compounds.
- 2. Answer the following questions (Any seven) (7x10=70)**
- Classify reaction mechanism and describe their reactivities and orientation citing proper example.
 - Explain Nucleophilic unimolecular and bimolecular reactions with stereochemical aspects citing example.
 - Describe the mechanism and synthetic applications of following named Reactions:
 - Ugi reaction,
 - Brook rearrangement,
 - Ullmann coupling reaction.
 - Explain the application of, N-bromosuccinamide, diazomethane, Wilkinson reagent, Witting reagent. Osmium tetroxide.
 - Describe the role of protecting group in organic synthesis? Explain elaborately about the protecting groups of carboxyl group and amides with reactions.
 - State the terminologies of retrosynthetic pathway. Explain the retrosynthetic steps for paracetamol, p-bromo aniline.
 - Explain different types of addition reactions with mechanism.
 - Explain the method of formation, stability and synthetic applications of different reaction intermediates.
 - Describe the mechanism of the following reactions: **(4x2.5)**
 - Knorr Pyrazole Synthesis
 - Pinner Pyrimidine Synthesis,
 - Combes Quinoline Synthesis,
 - Berthsen Acridine Synthesis,