PAPER ID-312087

Subject Code: MPC102T

Roll No: | | | | | | | | | | | | | |

MPHARM
(SEM I) THEORY EXAMINATION 2024-25
ADVANCED ORGANIC CHEMISTRY -I

TIME: 3 HRS **M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a) Discuss Markovnikov's rule with an example.
b) Demonstrate, why nucleophilic substitution reactions are rare in aromatic compounds.
c) List a few evidences for elimination reactions.
d) What are Carbocations? Write down any one method for the synthesis of carbocation.
e) What do you understand about singlet and triplet states of carbene?
f) Discuss Saytzeff's rule with an example.
g) Write down the uses of wittig reagents.
h) Discuss any method for the synthesis of diazopropane.
i) Describe the uses of celecoxib.
j) How can you protect amino groups?

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a) What do you mean by Elimination reactions? Explain in detail about E_1 E_2, and E_{1cb} reactions along with the differences between them.
b) Discuss various methods for the protection of the hydroxyl group.
c) Demonstrate various strategies for the synthesis of five and six-membered rings in detail with examples.

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a) Write down mechanisms and synthetic applications for Vilsmeyer-Haack and Ugi reactions.
b) Demonstrate in detail about synthesis and applications of diethyl azodicarboxylate and triphenylphosphine.
c) Explain various methods for protection for the carboxyl group.
d) Write down the reaction mechanism and applications of Debus-Radziszewski imidazole synthesis and Combes Quinoline Synthesis.
e) Discuss the synthesis of Metronidazole and Sulfamerazine.
f) Explain in detail about principles, terminologies, and advantages of retrosynthesis.
g) Describe in detail about C-X disconnections