

Your Roll No.....

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School of Pharmaceutical Education and Research
M. Pharm. I Semester Examination (2023-24)

Subject: Advanced Organic Chemistry
Paper Code: MPC-102T Date: 11-03-24

Maximum Marks: 75
Time: Three hours

(Write your Roll No. on the top immediately on receipt of this question paper)

*Note: This paper has two Sections; A and B. Attempt all the two sections.
Section A: Answer all the questions. Section B: Answer any 4 out of 6 questions*

Abbreviations Used:

CO-Course Outcome, PO- Program Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3- Apply; BT level 4- Analyze; BT level 5- Evaluate; BT level 6- Create.

A

SECTION-A

Answer the following in brief (Attempt all questions)

5x3= 15 Marks

Q. No 1	Question	BTL	CO	PO
(a)	Explain the stability pattern of carbanion with examples.	4	2	2
(b)	Discuss Saytzeff's rule by giving suitable examples.	4	2	2
(c)	Define Carbenes and their singlet and triplet state.	5	2	2
(d)	Give a reaction involving Nitrene intermediate.	4	2	2
(e)	Draw the structure of one Mercaptopurine and one Promazine	4	2	2

SECTION B

Long type Questions (Attempt any 4 out of 6)

4x15= 60 Marks

	Question	BTL	CO	PO
Q. No 2	a) Explain the stereochemistry of SN ¹ and SN ² reactions. 08 Marks b) Discuss Pinacol-Pinacolone and Benzylic acid rearrangements. 07Marks	5	3	3
Q. No 3	Discuss reaction mechanism and synthetic applications of any three of the following 3x5=15 Marks a) Baeyer-Villiger Oxidation b) Mannich Reaction c) Ozonolysis d) Vilsmeier-Haak Reaction	4	3	3
Q. No 4	Discuss the protection of amino and carbonyl groups by giving suitable examples.	4	3	3
Q. No 5	a) Discuss Traube purine synthesis and its applications. 07 Marks b) Write the synthesis of Alprazolam and Trimethoprim 08 Marks	4	3	3

Q. No 6	a) Discuss basic principles, terminologies and advantages of retrosynthesis. 7 Marks b) Explain two strategies for the synthesis of six membered rings. 8 Marks	5	3	3
Q. No 7	With proper examples, briefly discuss the synthetic applications of the following 3x5 = 15 Marks a) Titanium Chloride b) Wilkinson reagent c) Diazomethane	4	3	3