



PAPER ID-411276

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Subject Code: MPC102T

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MPHARM
(SEM I) THEORY EXAMINATION 2023-24
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.

2 x 10 = 20

- a) Discuss Saytzeff's rule with an example.
- b) Demonstrate, why nucleophilic substitution reactions are rare in aromatic compounds.
- c) Discuss the stability of free radicals.
- d) What are Carbocations? Write down any one method for the synthesis of carbocation.
- e) Write down the products of oxidative ozonolysis.
- f) Write down the Manich reaction.
- g) Write down the uses of the Wilkinson reagent.
- h) Discuss any method for the synthesis of diazopropane.
- i) What happens, when acetophenone is treated with m-CPBA?
- j) Write down the uses of diazopropane.

SECTION B

2. Attempt any *two* parts of the following:

10 x 2 = 20

- a) What do you mean by substitution reactions? Explain in detail about SN₁ and SN₂ along with the differences between them.
- b) Explain in detail the reaction, reaction mechanism, and synthetic applications of the Sharpless asymmetric epoxidation reaction.
- c) Discuss various guidelines for the dissection of molecules in detail. Explain functional group interconversion and addition (FGI and FGA) with examples.

SECTION C

3. Attempt any *five* parts of the following:

7 x 5 = 35

- a) Demonstrate various strategies for the synthesis of six-membered rings in detail with examples
- b) Demonstrate in detail about synthesis and applications of aluminum isopropoxide and N-bromosuccinamide.
- c) Explain various methods for protection for the carbonyl group.
- d) Discuss various ways to determine reaction mechanisms.
- e) Discuss the synthesis of ketoconazole and alprazolam.
- f) Explain in detail about principles, terminologies, and advantages of retrosynthesis.
- g) Describe in detail about C-C disconnections