Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 06

M.Pharma. (Pharmaceutical Chemistry) (Sem.–1)

ADVANCED ORGANIC CHEMISTRY-I

Subject Code : MPC-102T

M.Code : 74664

Date of Examination : 12-01-2023

Time : 3 Hrs. **Max. Marks : 75**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of SIX questions.**
2. **Each question carries FIFTEEN marks.**

1. a) Explain the stability of carbocation with suitable examples.

   b) Write down the products of formations from the reaction of carbene and alkene.

   c) Describe the Beckmann rearrangement.

   d) Write down two methods for generation of carbanion centre from carbonyl carbon.

   e) Give the evidences for S_N1 and S_N2 reactions.

2. Write down the reaction mechanism of the following reactions;

   a) Mannich Reaction

   b) Mitsunobu Reaction

   c) Vilsmeier-Haack Reaction.

3. Write down the applications of following reagents with appropriate examples.

   a) Aluminium isopropoxide

   b) DEAD

   c) NBS.

4. a) Enumerate the needs for doing protection with examples.

   b) What are the various ways used for protection and deprotection of NH-group?

   c) Explain the reaction mechanism for protection of carboxyl group by DCC.

   d) What do you mean by isotope labelling in the method of determination of reaction mechanism?

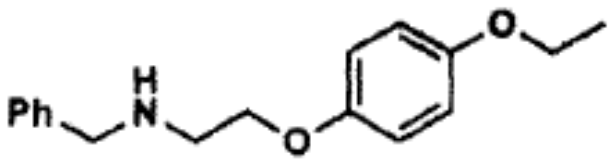
5. a) Describe the Traube Purine synthesis.

   b) Write down the synthesis of Tereconazole.

   c) Describe the Radzisewski Imidazole synthesis.

6. a) Write down both the retrosynthetic analysis and forward synthesis of octanal and 2-octanone from 1-bromohexane *via* an alkyne. Show all reagents and isolated intermediates in the synthetic scheme.

   b) Write down both the retrosynthetic analysis and forward synthesis of the following compound.



NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.