Seat No.: _____ Enrolment No. _____

PARUL UNIVERSITY

FACULY OF PHARMACY

M.Pharm. Winter 2022 - 23 Examination

Semester: 1 **Date: 15/03/2023**
Subject Code: MPC102T **Time: 10:00am**
Subject Name: ADVANCED ORGANIC CHEMISTRY – I **Total Marks: 75**

Instructions:
1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Marks Each) **(30)**

1. A.Discuss in details about methods of formation, stability and synthetic application of Carbocation.
   B.Write down the mechanism and synthetic application of following reaction-
   1.Mannich reaction
   2. Bayer –Villger oxidation
2. A.What is the importance of the protective group in organic synthesis? Describe Protection for the hydroxyl group, including 1,2-and 1,3-diols.
   B.Outline with the detailed explanation of Combes Quinoline synthesis and Traube Purine synthesis.
3. Explain the principles, terminologies,guidelines of retrosynthesis.

Q.2 Short Essay Type Questions. (any 5 out of 6) (5 Marks Each) **(25)**

1. Write a short note on SN1 vs SN2.
2. Explain reaction and mechanism of Ugi reaction.
3. Write down the synthetic application of Witting reagent and N-Bromosuccinimide.
4. Outline the synthesis and medicinal use of Chlorquine and Chlorpromazine.
5. Explain about the strategies for synthesis of Five membered ring compounds.
6. Write down the synthesis and medicinal use of Alprazolam and Trimethoprim.

Q.3 Short Answers. (2 Marks Each) **(20)**

1. Define carbene and nitrene.
2. What do you understand by Saytzeff's rule?
3. How will you prepare quinoline by doebner miller synthesis? Write only reaction involved.
4. What do you understand by Suzuki reaction?
5. Write down the application of BOP (benzotriazol-1-yloxytris(dimethylamino) phosphonium hexafluorophosphate)
6. Give the name of any two chemical agent used for the protection of Carboxyl group.
7. Write down the synthesis of metronidazole.
8. Draw the structure of Ketoconazole and mercaptopurine.
9. Differentiate FGI and FGA.
10. Explain C-C disconnections with example.