

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

**Annual Examination, 2022-2023 (Modal Paper)**

**Course Name: PHARMA**

**Year: FIRST YEAR**

**Branch: Pharm.D**

**Subject: PHARMACEUTICAL ORGANIC CHEMISTRY**

**Time: 3 Hours**

**Max.marks:70**

**Note: - Attempt all parts.**

### **PART- A**

**QUESTION NO. 1 TO 15, ATTEMPT ALL QUESTIOS**

**(15x1=15)**

1. Explain isomerism.
2. Use of the Fries rearrangement.
3. What is the Williamson modifier?
4. Differentiate the nucleophilic and electrophilic aromatic substitution reaction.
5. Examples of alkenes.
6. Give the reaction of Aldol condensation.
7. Define theory of resonance.
8. Example of Perkin condensation.
9. One example of aliphatic nucleophilic Substitution.
10. Give acid base theory.
11. How to measure acidity of carboxylic acid.
12. Example of oxidation reaction.
13. Uses of Chlorbutol.
14. Application of Hoffman rearrangement.
15. Describe polarity of ponds.

**(PART -B)**

**QUESTION NO. 16 TO 18, ATTEMPT ANY 2**

**(2x10=20)**

16. Explain the following reactions
  - a) Cross- Aldol condensation.
  - B) Reimer tiemer's reactions.
17. Discuss the mechanism, Kinetic and stereochemistry of aliphatic nucleophilic substitution reaction with suitable example.
18. Elaborate the free radical halogenation reaction in alkenes and compare free radical substitution with free radical addition.

**(PART-C)**

**QUESTION NO. 19 TO 27, ATTEMPT ANY 7**

**(5x7=35)**

19. Explain oxidation reaction and type of oxidizing agent with example.
20. What are the polarity of molecules and bond?
21. Discuss the walden inversion.
22. Explain the preparation of Mephesisin and how it will be purified.
23. Give a note on the acidity of phenols.
24. Describe the resonance and hyper conjugation.
25. Reaction involved in Fries arrangement and Hofmann rearrangement.
26. Summarize a note on isomerism.
27. Explain cyclo alkanes with examples.