

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS**  
**(Deemed to be University) , SALEM**

**Pharm.D DEGREE EXAMINATION - September 2021**  
**First Year**

**PHARMACEUTICAL ORGANIC CHEMISTRY**

Time: Three hours

Maximum: 70 marks

I. Write essays on any **TWO** questions: (2 x15 = 30)

1. What are Electrophilic addition reactions? Explain any two reactions in detail.
2. Explain the mechanism and reactions of the following
  - i) Knoevenagel reaction.
  - ii) Perkin Condensation
  - iii) Claisen Condensation.
3. i) Why Aldehydes are more reactive than Ketones? Give an account of the nucleophilic additions of aldehyde with the help of general mechanism. (10)  
ii) Explain Bayer's strain theory. (5)

II. Write short answers on any **SIX** questions: (6 x 5 = 30)

4. Free radicals.
5. Preparations of Ethers by Williamson's Synthesis.
6. Preparation, tests for purity, Assay and uses of Aspirin.
7. Peroxide effect.
8. Retormatsky reaction.
9. Mechanism and synthetic uses of Hoffman rearrangement reaction.
10. 1, 4 – addition and 1, 2 – addition reactions of Dienes.
11. Carbocations.

III. Write short notes on any **FIVE** question: (5 x 2 = 10)

12. Preparation and Medicinal uses of Methyl Salicylate.
13. Define Isomerism with any one example.
14. Kolbe's reaction.
15. Markownikoff rule.
16. Stero - isomerism.
17. Perkins condensation.

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