

Subject Code: B13106/R13

I B. Pharmacy I Semester Regular/Supplementary Examinations Feb. - 2015

PHARMACEUTICAL ORGANIC CHEMISTRY-I

Time: 3 hours

Max. Marks: 70

Question Paper Consists of **Part-A** and **Part-B**
 Answering the question in **Part-A** is Compulsory,
 Three Questions should be answered from **Part-B**

PART-A

1. (a) Write a note on stability of carbocations.
- (b) Why alkynes are acidic than alkenes and alkanes.
- (c) Explain the chain and conformational isomerisms.
- (d) Write any two important methods for the preparations of alkenes.
- (e) Define the terms chirality and racemic mixture.
- (f) Describe Industrial synthesis of Ethanol. [4+3+4+4+4+3]

PART-B

2. Write a detail note on following
 - (a) Inductive effect and Mesomeric effect.
 - (b) Peroxide effect
 - (c) Elimination reaction by E1 mechanism [6+5+5]
 3. (a) Explain the relative stability cycloalkanes with special emphasis on Bayer's strain theory and Sachse - Mohr theory.
 - (b) Describe the reaction of 1,3-Butadiene with Hydrobromic acid. [10+6]
 4. (a) Why alkenes will undergo electrophilic addition reactions. Explain the reactivity and orientation of electrophilic addition reactions of alkenes.
 - (b) Complete the following reaction with the help of its mechanism. [10+6]
- $$\text{H}_3\text{C}-\text{CHO} + \text{H}_2\text{O} \xrightarrow[\text{HgSO}_4]{\text{H}_2\text{SO}_4/}$$
5. (a) Explain the $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$ reactions in detail including their mechanisms and add a note on stereochemistry of $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$ reactions.
 - (b) Williamson's synthesis of ethers [10+6]
 6. Explain the following on detail
 - (a) Absolute configuration
 - (b) E and Z isomerism
 - (c) Optical isomerism [5+5+6]
 7. (a) What is Grignard reagent? Discuss the nucleophilic addition and substitution reactions of Grignard reagent in detail.
 - (b) How can we distinguish the 1° , 2° and 3° alcohols. Explain with the help of reaction. [10+6]
