

**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**

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**PART-A**

- (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**

- Write a detail note on following
  - Inductive effect and Mesomeric effect.
  - Peroxide effect
  - Elimination reaction by E1 mechanism [6+5+5]
- (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]
- (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]
$$\text{H}_3\text{C}-\text{CHO} + \text{H}_2\text{O} \xrightarrow[\text{HgSO}_4]{\text{H}_2\text{SO}_4}$$
- (a) Explain the S<sub>N</sub>1 and S<sub>N</sub>2 reactions in detail including their mechanisms and add a note on stereochemistry of S<sub>N</sub>1 and S<sub>N</sub>2 reactions.  
(b) Williamson's synthesis of ethers [10+6]
- Explain the following on detail
  - Absolute configuration
  - E and Z isomerism
  - Optical isomerism [5+5+6]
- (a) What is Grignard reagent? Discuss the nucleophilic addition and substitution reactions of Grignard reagent in detail.  
(b) How can we distinguish the 1<sup>o</sup>, 2<sup>o</sup> and 3<sup>o</sup> alcohols. Explain with the help of reaction. [10+6]

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