

**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 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]
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<sup>o</sup>, 2<sup>o</sup> and 3<sup>o</sup> alcohols. Explain with the help of reaction. [10+6]

\*\*\*\*\*

|||||