

Subject Code: B13106/R13

I B. Pharmacy I Semester Supplementary Examinations Aug - 2015

PHARMACEUTICAL ORGANIC CHEMISTRY-I

Time: 3 hours

Max. Marks: 70

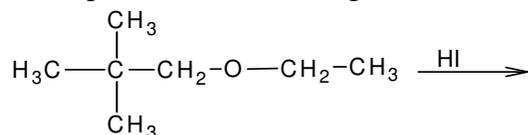
Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Three Questions should be answered from **Part-B**

PART-A

- (a) What are different factors influence a reaction? Explain the electromeric effect.
(b) Write the structural formulas and IUPAC names for all chain isomers of alkane C_5H_{12} .
(c) How do you convert ethyl bromide into ethanol, diethyl amine and ethyl cyanide?
(d) Classify alcohols with one example to each class.
(e) Define the following terms (i) Specific rotation (ii) Optical activity.
(f) Give the preparation of Grignard reagent. [4+4+3+3+4+4]

PART-B

- (a) Discuss the rearrangement in Carbocations.
(b) Explain inductive effect with examples.
(c) How free radicals formed? Explain their stability. [6+4+6]
- (a) Write a note on Bayer's strain theory.
(b) How will you synthesize n-Butylbromide from 1-Butene? Explain the mechanism.
(c) What are the products of following reaction?
(i) 1, 3 – Butadiene with HBr
(ii) 2 – Butyne with ozone [4+6+6]
- (a) Explain the mechanism of conversion of tert-Butyl bromide to tert- Butyl alcohol.
(b) Compare SN^1 and SN^2 reaction mechanisms.
(c) What are the products of following reaction? Which one is major product and why?
Explain its mechanism.
 $CH_3-CHBr-CH_2-CH_3 \xrightarrow{\text{alc. KOH}}$ [6+4+6]
- (a) Write the reaction of propanol with:
(i) Grignard reagent (ii) Acetyl chloride
(b) How can you distinguish 1^0 , 2^0 and 3^0 alcohols in laboratory?
(c) Explain the mechanism of Williamson's synthesis of ethers.
(d) What are the products of following reaction?



[4+4+4+4]

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6. (a) Define enantiomer and diastereomer. How do they differ in their properties?
(b) Write the geometrical isomers for following.
(i) 2-Bromo-2-butene (ii) 2-Phenyl-3-bromo-2-butene
(c) How do you assign R and S configuration?
(d) What are racemic mixtures? Describe any two methods to resolve racemic mixtures. [4+4+4+4]
7. (a) What are characteristic reaction mechanisms of Grignard reagent?
(b) How methyl magnesium bromide reacts with:
(i) Acetaldehyde (ii) Acetone (iii) Acetonitrile
(c) Give the reaction of Grignard reagent with ethyleneoxide. [5+8+3]
