(iii) Write note on Cope Elimination. (5,5,5)

5. (i) Write the mechanism of Bimolecular nucleophilic substitution with stereochemistry Involved.

(ii) Define Absolute Configuration and Relative configuration. Explain with the help of example in each case.

(iii) Explain Inductive effect. Arrange the following in increasing order of acidity CBr_3COOH, $CH_2BrCOOH$, $CHBr_2COOH$, with explanation (5,5,5)

6. Write note on the following

(i) Hyperconjugation

(ii) Peroxide Effect

(iii) Homolytic and Hetrolytic Fission (5,5,5)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3314 **I**

Unique Paper Code : 2174001002

Name of the Paper : GE Basic Concepts of Organic Chemistry

Name of the Course : **B.Sc. (H) / B.Sc. Prog.**

Semester : I/III/V

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll. No. on the top immediately on receipt of this question paper.
2. Attempt any FOUR questions
3. All questions carry equal marks.

1. (i) A hydrocarbon 'A' decolorises cold dilute $KMnO_4$ solution. 'A' reacts with concentrated sulphuric acid to form an alkyl hydrogen sulphate which on hydrolysis yields 2-butanol. On ozonolysis, 'A'

gives formaldehyde and propionaldehyde .Give the structural formula of 'A'. Write the reactions involved.

(ii) Explain Huckel rule. What are the conditions for a compound to be aromatic? Explain with the help of examples.

(iii) Explain directive influence of substituent in electrophilic substitution of benzene. Write the complete reaction when nitro benzene is heated with mixture of sulphuric acid and nitric acid. (5,5,5)

2. (i) How will you synthesize the following

(a) Isopropyl alcohol from n-propyl alcohol

(b) n-Propyl bromide from Isopropyl bromide

(ii) Explain the bromination of ethylene with mechanism.

(iii) Predict the product formed when benzene is treated with methyl bromide in the presence of ferric bromide. (5,5,5)

3. (i) Define Stereoisomerism and explain its different types.

(ii) Write fischer projection formula of all the possible stereoisomers of 2-bromo-3- chlorobutane

(iii) Assign R,S configuration with respect to each chiral centre of all possible stereoisomers of 2-bromo-3-chlorobutane. (5,5,5)

4. (i) Draw structures of all possible E2 products when 2-bromobutane reacts with conc. NaOH. Explain with mechanism.

(ii) The dehydration of 3-methyl-2-butanol in presence of acid results in the formation of two products. Name the products formed during the reaction and give a suitable mechanism.