[Total No. of (i) Printed Pages 4 (ii) Questions 9]

Sub Code : 0152(1048) **Exam Code :** 0002

Exam : B.A./B.Sc.(General), 2nd Semester

Subject : Chemistry

Paper : Paper: VI Organic Chemistry-B

Time : 3 Hours ***Maximum Marks : 22***

Note : Attempt any five questions in all including Question No.9 which is compulsory question and selecting one question from each Unit I-IV.

UNIT-I

1. With suitable examples, explain the followings :
   (i) Hofmann elimination
   (ii) Ozonolysis 2,2

2. Write the products of following reactions :

   (i) $CH_3\ CH = CH_2 + Br_2 \xrightarrow{773K}$?

   (ii) $CH_3\ CH_2\ CH(OH)CH_3 \xrightarrow{acid}$?

(iii) $CH_3\ CH = CHCH_3 + C_6\ H_5CO_2\ OH \longrightarrow ?$

(iv) $CH_3\ CH = CH_2 \xrightarrow{KMnO_4} ?$

UNIT-II

3. Write appropriate examples, explain the following in relevance to alkynes :
   (i) Metal - ammonia reduction
   (ii) Polymerization 2,2

4. (a) Illustrate the Diels - Alder reaction with example.

   (b) With appropriate example, discuss the mechanism of electrophilic addition reaction of alkynes. 1,3

UNIT-III

5. (a) Elaborate the mechanism of nitration of benzene.

   (b) List the factors which effect the ortho to para ratio of the products In aromatic electrophilic substitution. 2,2

6. (a) With resonance contributing forms, discuss the reactivity of halobenzenes towards the aromatic electophilic substitution.

(b) Write the product/s of following reaction :

Ethyl benzene $+Cl_2 \xrightarrow{hv}$ 3,1

UNIT-IV

7. (a) Discuss the stereochemistry of Sn^2 reaction.

(b) Describe the addition - elimination mechanism of nucleopilic aromatic substitution reaction. 2,2

8. (a) What happens when ethyl bromide is treated with :
   (i) KCN
   (ii) NaSH
   (iii) Na/Dry ether
   (iv) AgCN

(b) Why allyl halides are more reactive than alkyl halides towards nucleophilic substitution reaction. 2,2

Compulsory Question

9. (a) Give industrial application of propene.

   (b) What do you understand by acidity of alkynes ?

   (c) Define Huckel rule with example.

   (d) How will you prepare chloroform ?

4x1.5=6