(i) Printed Pages : 2 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 1 5 2

Exam. Code : 0 0 0 2

B.A./B.Sc. (General) 2nd Semester

(2053)

CHEMISTRY

Paper : VI Organic Chemistry-B

(Same for B.Sc. Microbial & Food Tech.)

Time Allowed : Three Hours] [Maximum Marks : 22

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

UNIT—I

1. (a) Describe the Saytzeff's rule and Hofmann elimination with examples.

   (b) Explain epoxidation of alkenes. 2,2

2. (a) Define Markownikoff's rule.

   (b) Discuss the mechanism involved in hydrogenation of alkenes. 1,3

UNIT—II

3. (a) Discuss the mechanism of nucleophilic addition reaction of alkynes.

   (b) Differentiate between conjugated and cumulated dienes. 3,1

4. Elaborate the following with suitable examples :

(i) Mechanism of 1, 2 additions to conjugated dienes.

(ii) Metal ammonia reduction of alkynes. 2,2

UNIT—III

5. (a) Discuss the various factors affecting ortho/para ratio in aromatic electrophilic substitution.

(b) Depict the preparation of alkylbenzenes. 3,1

6. (a) Elaborate the mechanism of halogenation of benzene.

(b) Explain non-aromatic compounds with appropriate examples. 3,1

UNIT—IV

7. (a) Describe the mechanism of S_N^2 reaction with energy profile diagram.

(b) Give the preparation of chloroform. 3,1

8. (a) Discuss the elimination-addition mechanism of nucleophilic substitution in aryl halide.

(b) What happens when ethyl benzene is treated with $Cl_2/h\nu$ at 383 K ? 3,1

(Compulsory Question)

9. (a) Discuss hydroxylation of alkenes.

(b) What happens when alkynes are treated with alk. $KMNO_4$?

(c) Differentiate between activating and deactivating substituents.

(d) How will you convert benzyl chloride to benzoic acid ?

$4 \times 1.5 = 6$