Exam.Code:0002
Sub. Code: 0152

2071

B.A./B.Sc. (General) Second Semester

Chemistry

Paper – VI: Organic Chemistry – B

(Same for B.Sc. Microbial and Food Technology)

Time allowed: 3 Hours | Max. Marks: 22

NOTE: *Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I-IV.*

x-x-x

UNIT - I

I. Describe the followings in relevance to alkenes:-

a) Oxymercuration-reduction

b) Regioselectivity in alcohol dehydration. (2,2)

II. Predict the products of following reactions:-

(i) $CH_3CH_2CH{=}CH_2 \xrightarrow{O_3} ? \xrightarrow[Zn/CH_3COOH]{2[H]} ?$

(ii) $? \xleftarrow[H^+]{\text{Hot } KMNO_4/KOH} CH_3CH{=}CH_2 \xrightarrow[Cl_2]{773\ K} ?$

(4)

UNIT - II

III. a) Discuss the mechanism of nucleophilic addition reaction of alkynes.

b) Explain the acidity of alkynes. (3,1)

IV. a) Depict the 1,2 additions to conjugated dienes with appropriate example.

b) Elaborate metal-ammonia reduction of acetylene. (2,2)

UNIT - III

V. a) Differentiate between aromatic and non-aromatic compounds.

b) Describe the mechanism of nitration of toluene. (1,3)

P.T.O.

VI. Discuss the following in relation to aromatic electrophilic substitution:-

a) Role of σ and π -complexes

b) Orientation and ortho/para ratio (2,2)

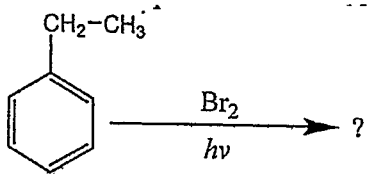
UNIT - IV

VII. a) Elaborate the elimination-addition mechanism of nucleophilic substitution in aryl halide.

b) How will you prepare dibenzyl from benzyl chloride? (3,1)

VIII. a) Discuss the mechanism of S_N^2 reaction with energy profile diagram.

b) Predict the product of the following reaction with appropriate reasoning.



(2,2)

UNIT - V

IX. Attempt the following:-

a) Illustrate Saytzeffs rule with example.

b) Explain the Diels-Alder reaction with suitable example.

c) How aromaticity is related to Huckel rule?

d) Give the preparation of carbon tetrachloride from carbon disulphide. (4x1½)

x-x-x