

B.Sc. 2nd Semester (Latest)

Examination, May-2023

BIO-TECHNOLOGY

Paper-BT-207

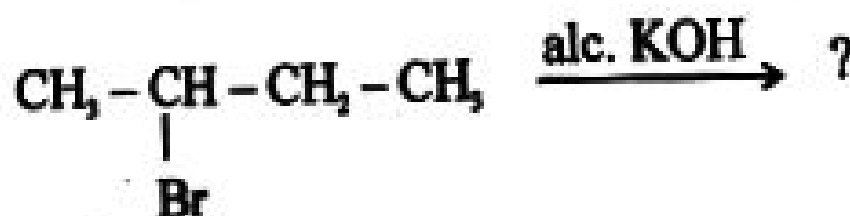
Organic Chemistry

Time allowed : 3 hours] [Maximum marks : 40

Note : Attempt five questions in all, selecting one question from each section. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) Complete the reaction

1×8=8



(b) Which one is non-aromatic ?



(c) What are deactivating group ?

(d) Write IUPAC name of $\overset{1}{\text{CH}_3} - \overset{2}{\underset{\text{CH}_3}{\text{CH}}} - \overset{3}{\text{CH}} = \overset{4}{\text{CH}_2}$.

(e) Which of the following is conjugated system



(f) Why Diel's Alder reaction is called (4+2) cycloaddition reaction.

(g) What is Lindlar's catalyst ?

(h) Which type of solvents favour $\text{S}_{\text{N}}2$ reactions ?

Section-A

2. (a) Write notes on

6

(i) Anti Markownikoff's rule

(ii) Kharash effect

(b) What is Saytzeff rule ? Explain.

2

3. (a) Discuss the mechanism of hydro-boration oxidation of alkenes.

4

- (b) What is Hofmann elimination? Give preparation of propene by this method. 4

Section-B

4. (a) Write a note on aromaticity and Huckel's rule giving suitable example. 4
- (b) What are activating and deactivating groups? Pick out the substituents which are activating and deactivating -



5. (a) Write mechanism of Friedel-Craft's alkylation of benzene and discuss its limitations. 4
- (b) Draw and discuss energy level diagram for sulphonation of benzene. 4

Section-C

6. (a) What are various classes of dienes? Describe with suitable examples. 4
- (b) Write the mechanism of addition of HBr to 1,3-butadiene. 4

(4)

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7. (a) Why terminal alkenes are acidic in nature ?
Discuss with example. 4
- (b) Which is more stable 1, 4-pentadiene or
1, 3-butadiene ? Explain your answer. 4

Section-D

8. (a) Discuss the factors which affect the rate of S_N2
reaction. 4
- (b) Give the elimination-addition mechanism of
conversion of chlorobenzene in σ aniline. 4
9. (a) Why are aryl halides less reactive than alkyl
halides in nucleophilic substitution ? 4
- (b) Differentiate between S_N1 and S_N2 reactions. 4