

(i) Printed Pages: 3

Roll No. ....

(ii) Questions : 9

Sub. Code : 

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Exam. Code : 

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B.A./B.Sc. (General) 2<sup>nd</sup> Semester  
(2054)

### CHEMISTRY

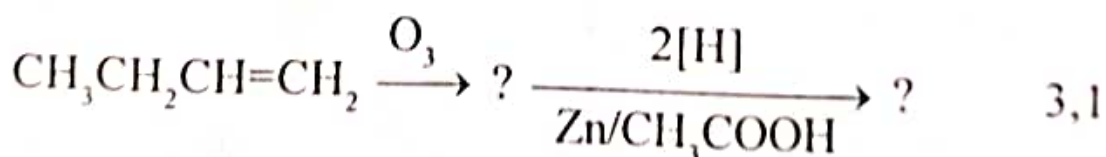
Paper-VI : Organic Chemistry-B  
(Same for B.Sc. Microbial & Food Tech.)

Time Allowed : Three Hours] [Maximum Marks : 22

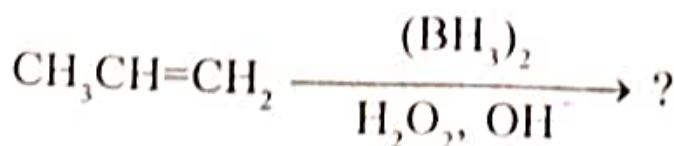
Note :—Attempt FIVE questions in all including Q. No. 9 which is compulsory question and selecting ONE question each from Units I to IV.

#### UNIT—I

1. (a) Explain the mechanism of dehydrohalogenation of 2-bromobutane.  
(b) Predict the products of the following reaction :



2. (a) Write the product/s and depict the steps involved in the mechanism of following reaction :



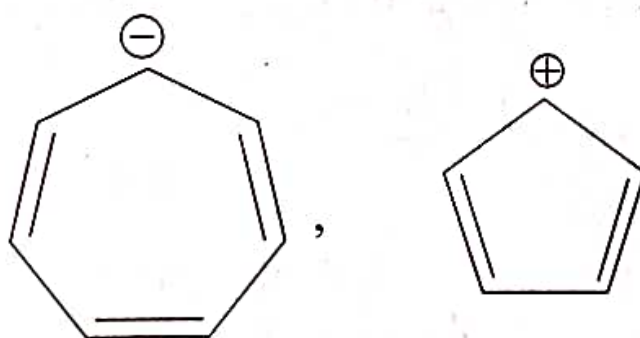
- (b) What happens when ethylene is treated with Br<sub>2</sub> and H<sub>2</sub>O ? 3,1

## UNIT—II

3. (a) What will be the product of the reaction of cyclohexene with NBS ?
- (b) Elaborate the effect of temperature on 1,2 and 1,4-additions of HBr to 1,3-butadiene. 1,3
4. (a) Describe the mechanism of nucleophilic addition reaction of alkynes.
- (b) With chemical equation, predict the product/s of reduction of 2-butyne with following :
- (i)  $\text{Na}/\text{NH}_3$
- (ii)  $\text{Pd}/\text{BaSO}_4$ . 2,2

## UNIT—III

5. (a) Which of the following compounds are aromatic ? Explain with Huckel rule.



- (b) Describe the role of  $\sigma$  and  $\pi$ - complexes in aromatic electrophilic substitution. 2,2

6. (a) Why chlorination of chlorobenzene is more difficult than that of toluene ?  
(b) Depict the mechanism of sulphonation of benzene.
- 2,2

#### UNIT—IV

7. (a) With mechanism, explain why reaction of 1-iodo-2,2-dimethylpropane with water provide 2-methylbutan-2-ol instead of 2,2-dimethylpropan-1-ol ?  
(b) Compare the relative reactivity of benzyl chloride and vinyl chloride in nucleophilic substitution reactions.
- 2,2
8. (a) Elaborate the addition-elimination mechanism of nucleophilic aromatic substitution reactions.  
(b) Depict the conversion of benzyl chloride to toluene.
- 3,1

#### (Compulsory Question)

9. (a) Out of BHR and HCl which gives peroxide effect and why ?  
(b) Explain Diels-Alder Reaction.  
(c) What happens when toluene is treated with chromyl chloride ?  
(d) How will you prepare carbon tetrachloride ?
- 4×1.5=6