

(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) 4<sup>th</sup> Semester  
(2053)

**CHEMISTRY**

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

Paper : XIV Organic Chemistry-B

Time Allowed : Three Hours]

[Maximum Marks : 22

Note :—Attempt **FIVE** questions in all selecting at least **ONE** question from each unit. Q. No. 9 of Unit-V is compulsory.

**UNIT—I**

1. (a) Write a note on :—

(i) Transesterification

(ii) Amphoteric nature of amide.

(b) Discuss the mechanism of alkaline hydrolysis of esters.  
2,2

2. (a) Discuss Hoffman's bromamide reaction of amide. Give its mechanism.

(b) Explain the mechanism of nucleophilic acyl substitution in acid derivatives. Explain the order of reactivity for this substitution.  
2,2

## UNIT—II

3. (a) Give the mechanism of acid catalysed ring opening of epoxides.
- (b) Complete the following reactions :
- (i) Anisole + Hot Conc. HI  $\rightarrow$
- (ii) Ethylbromide + Sodium Terbutoxide  $\rightarrow$  2,2
4. (a) Write a note on :
- (i) Saponification value
- (ii) Iodine value of fats.
- (b) What are the different types of synthesis detergents ? Explain their cleansing action. 2,2

## UNIT—III

5. (a) Complete the reaction :—
- (i)  $\text{C}_6\text{H}_5\text{NO}_2 \xrightarrow{\text{Zn/NaOH in CH}_3\text{OH}}$
- (ii)  $\text{C}_6\text{H}_5\text{NO}_2 \xrightarrow{\text{Zn/NaOH}}$
- (b) Write a note on the effect of substitution on the basicity of aromatic amines. 2,2
6. (a) Write short notes on :—
- (i) Gabriel phthalamide reaction
- (ii) Carbylamine reaction.
- (b) Explain Hinsberg's test for the separation of primary, secondary and tertiary amines. 2,2

### UNIT—IV

7. (a) Write a note on the basicity order of pyridine, piperidine and pyrrole.
- (b) Explain Skraup synthesis for the preparation of Quinoline. 2,2
8. (a) Explain the mechanism of nucleophilic substitution in pyridine derivative.
- (b) Explain the molecular orbital picture and aromatic character of thiophene. 2,2

### UNIT—V

9. (a) Why acid amides are less reactive than acid chloride towards nucleophilic substitution reactions.
- (b) How does Grignard reagent react with epoxide ?
- (c) What are fats and oil, how they differ from each other ?
- (d) What is ortho effect in case of aromatic amine ?
- (e) Why pyrrole is less basic than ethyl amine ?
- (f) Define RM value in fats. 6×1