

(i) Printed Pages: 4

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

(2054)

**CHEMISTRY**

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

Paper—XIV (Organic Chemistry—B)

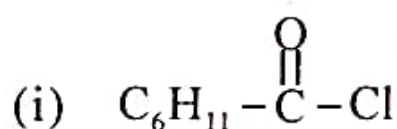
Time Allowed : Three Hours]

[Maximum Marks : 22

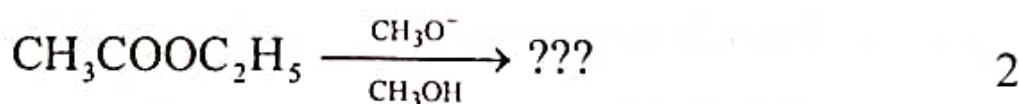
**Note** :—Attempt **FIVE** questions in all, including Question No. 9 (Section E) which is compulsory and selecting **ONE** question each from Section A to Section D.

**SECTION—A**

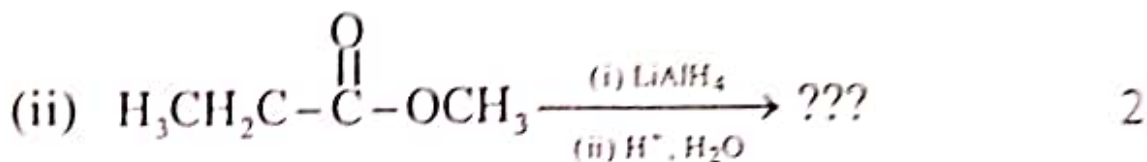
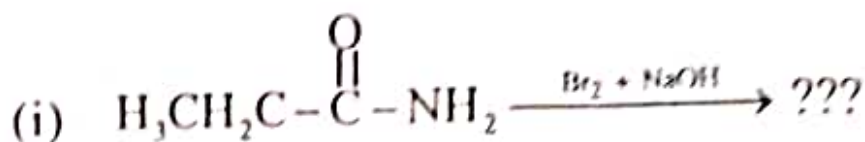
1. (a) Give the IUPAC names for the following compounds :



(b) Complete the following reaction and give the mechanism :



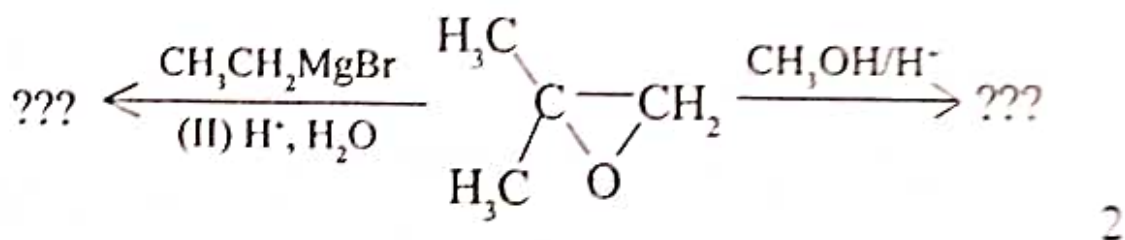
2. (a) Complete the following reactions :



- (b) Amongst benzoyl chloride and acetyl chloride, which is hydrolyzed at a much slower rate and why ? 2

### SECTION—B

3. (a) Complete the following reactions :



- (b) What is (i) Acid value and (ii) Essential fatty acids ? 2

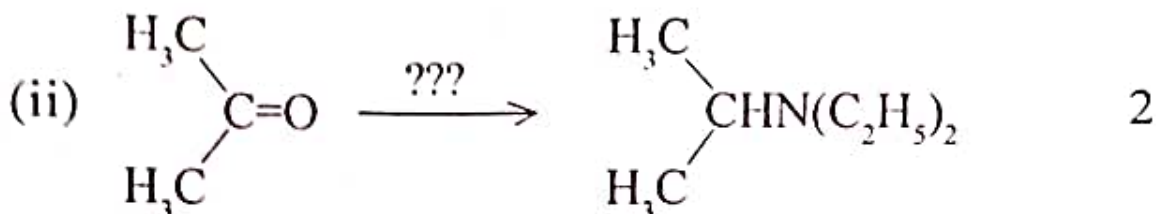
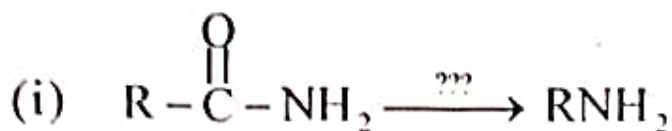
4. (a) Why are 3° haloalkanes not used in Williamson ether synthesis ? 1

- (b) How soaps and detergents differ from each other ? Explain with examples. 3

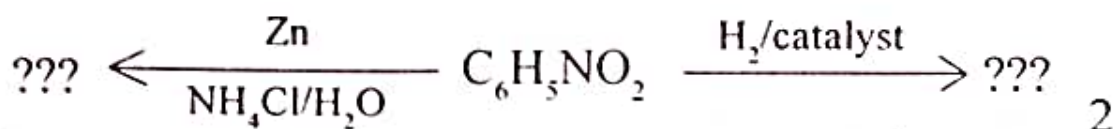
### SECTION—C

5. (a) Discuss the mechanism of nucleophilic substitution reactions of aryl nitro compounds. 2

(b) Complete the following reactions :



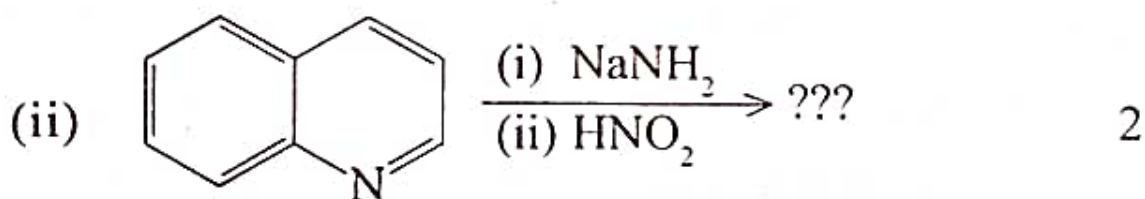
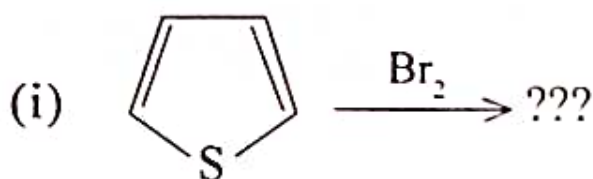
6. (a) Complete the following reactions :



(b) Explain Hinsberg's method for separation of 1°, 2° and 3° amines. 2

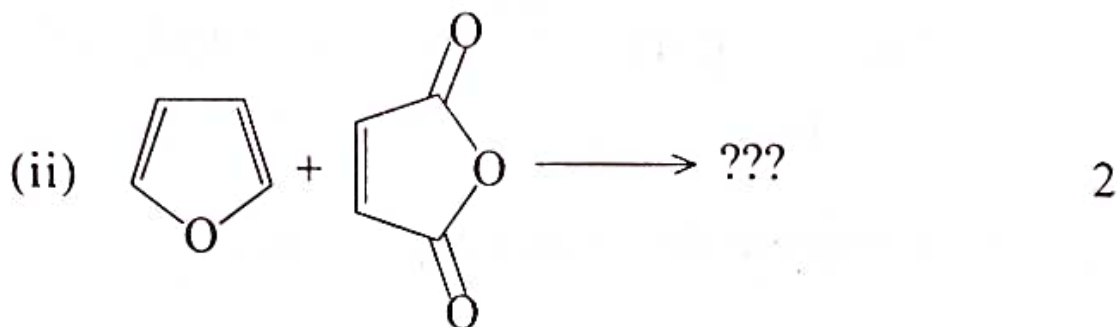
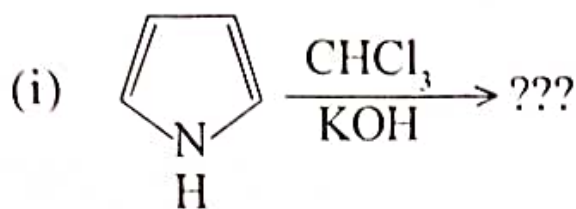
### SECTION—D

7. (a) Complete the following reactions :



(b) Give detailed mechanism for the reaction when arylhydrazone is heated with polyphosphoric acid. 2

8. (a) Complete the following reactions :



- (b) Why electrophilic substitution in pyrrole takes place at the 2-position, whereas it occurs preferentially at the 3-position in pyridine ? 2

### SECTION—E

9. (a) Which acid derivative has lachrymatory nature and why ?
- (b) How can Grignard reagent be used for the preparation of higher ethers ?
- (c) Amines attached to different alkyl groups do not show optical activity. Why ?
- (d) What is the order of reactivity of pyrrole, furan and thiophene towards electrophilic substitution reactions and why ? 1.5 each