

CHEMISTRY

Paper – XIV Organic Chemistry – B

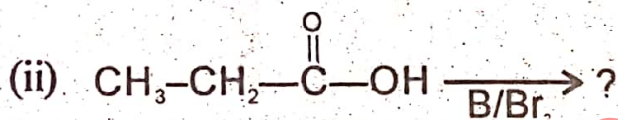
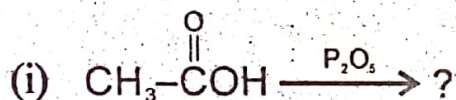
Time Allowed : 3 Hours

Maximum Marks : 22

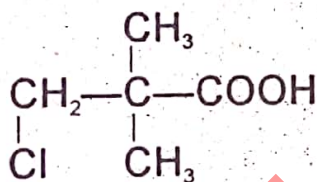
- Note : (i) Attempt five questions in all.
(ii) Attempt at least one question each from UNITS I, II, III and IV.
(iii) Q. No. 9 of Section V is compulsory.

UNIT – I

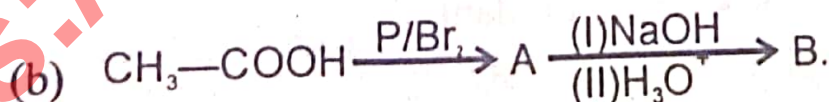
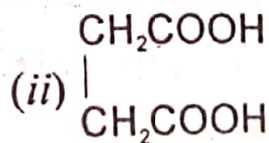
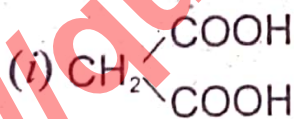
1. (a) Complete the following reactions :



(b) Write IUPAC name of the following compound :



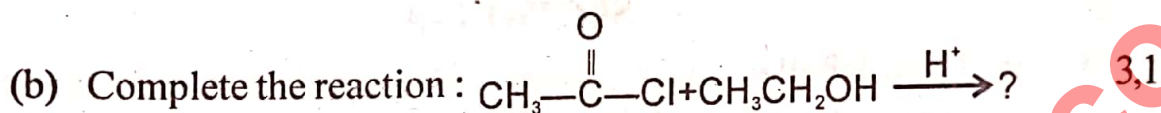
- (c) Explain why formic acid is a stronger acid than acetic acid. 2,1,1
2. (a) What are products obtained when following carboxylic acids are strongly heated :



(c) Give structure and IUPAC name of Malic acid. 2,1,1

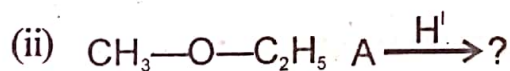
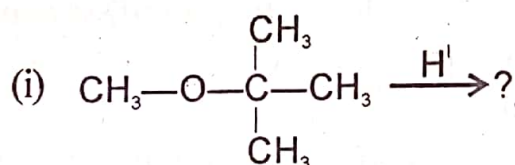
UNIT - II

3. (a) What is the order of reactivity of acid chlorides, esters, amides and anhydrides, towards nucleophilic substitution reaction? Justify your answer.
- (b) Give the chemical equation for reaction of ethanoyl chloride with two moles of Ammonia. 3,1
4. (a) Give the mechanism of acidic hydrolysis of esters. Give evidence for mechanism.



UNIT - III

5. (a) Complete the reactions : 1×4=4



- (b) Boiling points of ethers are similar to corresponding alkanes but less than alcohols. Why?
6. (a) (i) How are soaps prepared from oil or Fat? Give chemical equation.
- (ii) Define Saponification value. 2,1
- (b) What are ionic detergents? Give an example. 1

UNIT - IV

7. (a) Nitrobenzene when treated with NaOH yields O and P nitrophenols. Give mechanism of formation of *p*-nitrophenol.
- (b) What happens when nitromethane is treated with LiAlH_4 . 3,1
8. (a) Discuss the method of separation of primary, secondary and tertiary amines, using Hinsberg's reagent.
- (b) Give the structure of N, N-Diethyl ethanamine. 3,1

UNIT - V

9. (a) Why are carboxylic acids stronger acids than phenols?
- (b) What happens when *v*-haloacids are heated?
- (c) Why is C—N bond shorter in amides as compared to amines?
- (d) Give products obtained when anisole reacts with HI.
- (e) What is the disadvantage of using soaps?
- (f) Write the chemical equations for Hoffmann Bromamide reaction.

1×6=6