

(1) NAME THE 1ST AND THE LAST ELEMENT OF 2ND TRANSITION SERIES

CHEMISTRY PAPER-X

(Organic Chemistry-A)

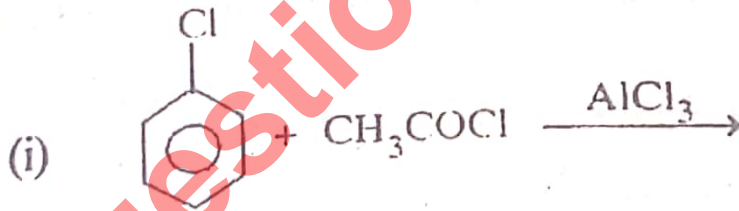
Time Allowed : Three Hours

Maximum Marks : 22

Note : Attempt five questions in all, selecting one question from each Section and the compulsory question (Section-E).

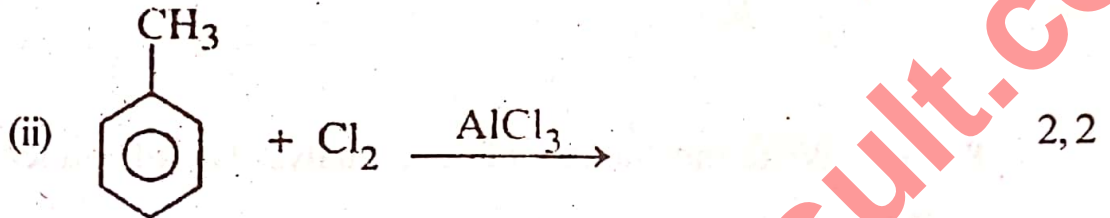
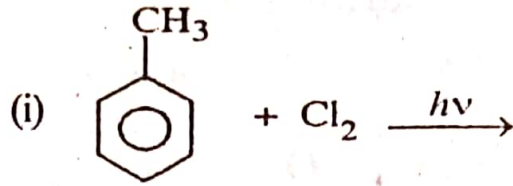
SECTION-A

1. (a) Dipole moment of chlorobenzene is less than that of cyclohexyl chloride.
- (b) Complete the following :



2,2

2. (a) Out of $C_6H_5CH_2Cl$ and $C_6H_5CHClC_6H_5$ which is more easily hydrolysed by aqueous KOH toward SN^1 reaction and why ?
(b) Complete the following :



SECTION-B

3. (a) Write mechanism of Reimer Tiemann reaction.
(b) Complete it :
(i) Glycerol + Conc. $HNO_3 \rightarrow$
(ii) Glycerol + Oxalic acid at $503k \rightarrow$ 2,2
4. (a) Give two equations to show that alcohols are acidic in nature. Also write order of acidic character of alcohols.
(b) Discuss the ortho, para directing and activating influence $-OH$ group toward electrophilic substitution reaction in phenols. 2,2

SECTION-C

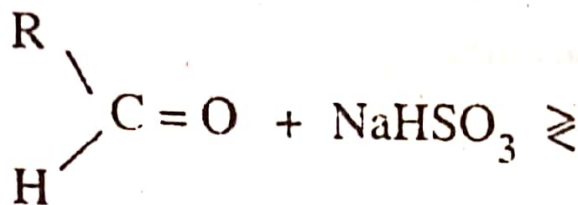
5. (a) Give Rosenmund reduction reaction for the preparation of aldehydes. Why $HCHO$ cannot be prepared by this method ?
(b) Convert nitriles into ketone using Grignard reagents. 2,2
6. (a) Write IUPAC name :
(i) $C_6H_5CH=CHCOCH_3$
(ii) $HCHO$
(b) Why boiling points of aldehydes and ketones are less than that of comparable molar mass ? 2,2

SECTION-D

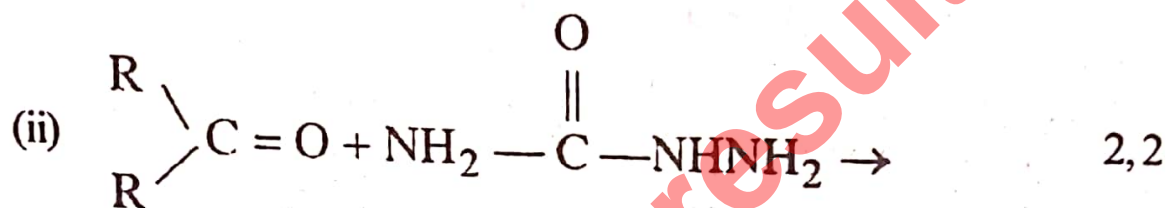
7. (a) Discuss relative reactivities of aldehydes and ketone toward Nucleophilic addition reaction.

(b) Complete the following :

(i)



(ii)



8. (a) Write mechanism of base catalysed aldol condensation.

(b) Write equations only for :

(i) Wittig reaction

(ii) Wolff Kishner reduction

2,2

SECTION-E

9. (i) Vinyl chloride is less reactive than ethylchloride. Why ?

(ii) Write IUPAC of Glycerol.

(iii) Give equation only for Reimer Tiemann reaction.

(iv) Compare the carbonyl group and ethylenic double bond.

(v) Give one equation to distinguish b/w aldehyde and ketone.

(vi) Write the order of boiling point of alkyl halide, alcohol and aldehyde of comparable molar mass with reason. 1×6=6