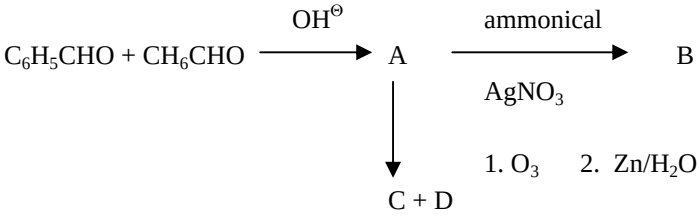
CLASS XII, CHEMISTRY –ALDEHYDES / KETONES ASSIGNMENT NO. 8

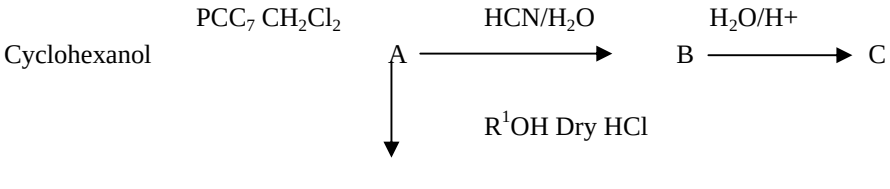
Q1. Name the electrophilic and nucleophilic centre in a carbonyl compound. (1)
Q2. Why is an L-H acidic in carbonyl compounds? (1)
Q3. Presence of –CHO gp in benzaldehyde deactivates the ring towards E^{Θ} sub-reactions, why? (1)
Q4. What is the change in hybridization of a carbonyl carbon atom during NU^{Θ} addition reactions? (1)
Q5. What is PCC, give one specific use of this reagent? (1)
Q6. What is DIBAL-H? Give one specific use of this reagent. (1)
Q7. Give formula of Roschelle salt. What is its role in Fehling solu? (1)
Q8. How does benedict solu differ from fehling solu? (1)
Q9. What is formalin? Give one important use of formalin. (1)
Q10. Give one character feature of $LiALH_4$ as a reducing agent. (1)
Q11. Dipole moment of ethanol is 2.78d which is much higher than the dipole moment of diethylether (1.18D). Justify.
Q12. Boiling pt. of butan – 2- one is 353K while that of ethoxyethane is 308K. Justify (1)
Q13. Why nucleophilic addition of sodium bisulphate is used as a method of separation of aldehydes and ketones ? (1)
Q14. Nucleophilic addition of ammonia derivatives to carbonyl compounds requires a slight acidic medium and a pH of 3-4 should be maintained why? (1)
Q15. Dry hydrogen chloride is used during NU^{Θ} addition of alcohols to carbonyl compounds why? (1)
Q16. Benzaldehyde is less reactive than acetaldehyde towards NU^{Θ} addition reaction. Why? (1)

Q2. **Identify A, B, C, D**

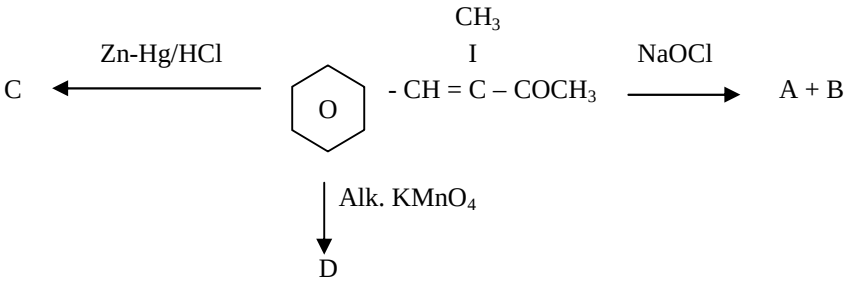
(A)



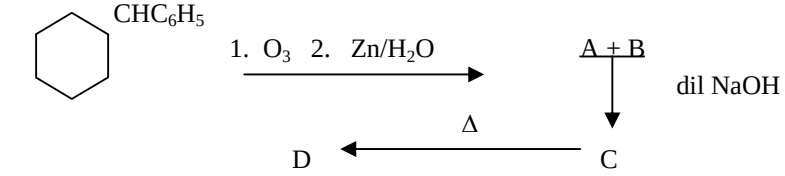
(B)



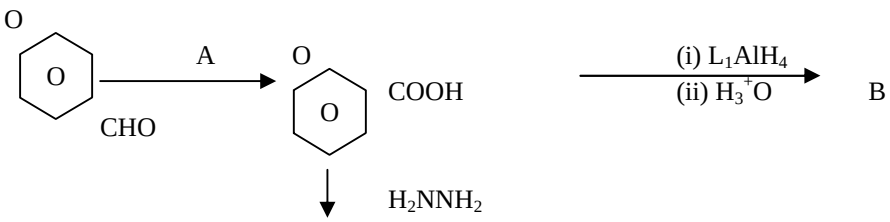
(c)



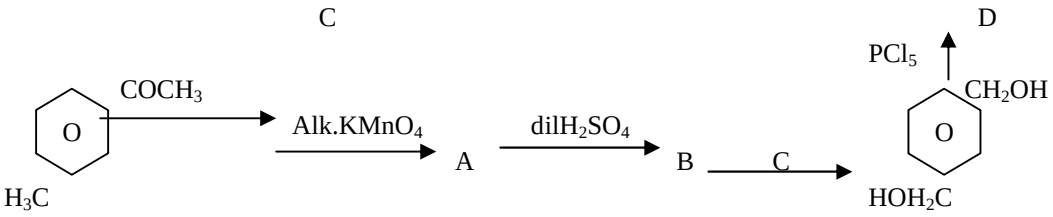
(d)



(e)



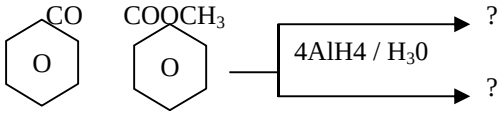
(f)



Q. Complete the following reactions:-

(a) $CH_3CH = CHCHO$ $\xrightarrow[1.\ L_1AlH_4/NaBH_4]{2.\ H_3^+O\ \ ?}$

(B)



(c) $CH_3CO.O.COCH_3$ $\xrightarrow{\ ?\ }$ $2CH_3CH_2OH + H_2O$

(d) $CH_3CO.O.CO.CH_3$ $\xrightarrow[2.\ H_3^+O]{1.NaBH4}$?

(e) $CH_2 = CH - CH_2C \equiv N$ $\xrightarrow{1.L_1AlH_4\ 2.H_3O}$?

(f) $C_6H_4CON(CH_3)_2$ $\xrightarrow{\ ?\ }$ $C_6H_5CH_2N(CH_3)_2$

(g) ?