

Board – CBSE

Class – 12<sup>th</sup>

Topic – Aldehydes, Ketones and Carboxylic Acids

1. Explain why o-hydroxy benzaldehyde is a liquid at room temperature while p-hydroxy benzaldehyde is a high melting solid.
2. Arrange the following compounds in increasing order of their reactivity towards HCN. Explain it with proper reasoning. Acetaldehyde, Acetone, Di-tert-butyl ketone, Methyl tert-butyl ketone.
3. Arrange the following compounds in increasing order of their boiling points. Explain by giving reasons.  $\text{CH}_3\text{CHO}$ ,  $\text{CH}_3\text{CH}_2\text{OH}$ ,  $\text{CH}_3\text{OCH}_3$ ,  $\text{CH}_3\text{CH}_2\text{CH}_3$ .
4. How is tert-butyl alcohol obtained from acetone?
5. Arrange the following compounds in increasing order of their acid strength. Benzoic acid, 4-Nitrobenzoic acid, 3, 4-dinitrobenzoic acid, 4-methoxy benzoic acid.
6. Describe the following:  
(i) Acetylation (ii) Cannizzaro reaction (iii) Cross aldol condensation (iv) Decarboxylation.
7. Out of acetophenone and benzophenone, which gives iodoform test? Write the reaction involved. (The compound should have  $\text{CH}_3\text{CO}$ -group to show the iodoform test.)
8. Give Fehling solution test for identification of aldehyde group (only equations). Name the aldehyde which does not give Fehling's soln. test.
9. Name the reaction and the reagent used for the conversion of acid chlorides to the corresponding aldehydes.
10. A chloro compound A' on reduction with Zn – Cu and alcohol gives the hydro carbon (B) with five carbon atom. When A' is dissolved in ether and treated with sodium 2,2,5,5 tetra methyl hexane is formed structure of A and B?
11. An aromatic compound A on treatment with aqueous ammonia and heating forms compound B which on heating with  $\text{Br}_2$  and KOH forms a compound C of molecular formula  $\text{C}_6\text{H}_7\text{N}$ . Identify A, B, C.
12. Fluoro acetic acid is a stronger acid than acetic acid. Explain.
13. Draw the structure of the following –  
(a) 4- Methoxy benzaldehyde                      (b) 1,2 –Ethanedioic acid  
(c) 2,3- Dihydroxy -4-methylpentanal        (d) 2,4 –Dimethyl -3- pentanone
14. What happens when acetaldehyde is kept with a trace of sulphuric acid? Write the structure of product.
15. Write the structure of alkenes that on ozonolysis will give ketone only.