

BCM School Basant Avenue Dugri road LDH

Assignment – Chemistry

Class – XII

Chapter – Aldehyde Ketones and Carboxylic Acids

Q1. Which of the following compound can be oxidised to prepare ethyl methyl ketone?

- (a) Propanal
- (b) Butanal
- (c) Tertiary butyl alcohol
- (d) None of the above

Q2. Acetaldehyde on the treatment of a few drops of sulphuric acid gives

- (a) Paraldehyde
- (b) Ethyl methyl amine
- (c) Ethyl alcohol
- (d) None of the above

Q3. The enolic form of acetone contains

- (a) 9 sigma bonds, 1 pi bond and 2 lone pairs
- (b) 8 sigma bonds, 2 pi bonds and 2 lone pairs
- (c) 10 sigma bonds, 1 pi bond and 1 lone pair
- (d) 9 sigma bonds, 2 pi bonds and 1 lone pair

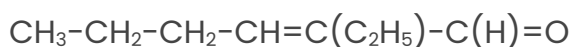
Q4. Methyl ketones are categorised through

- (a) The tollen's reagent,
- (b) The iodoform test
- (c) The Benedict test
- (d) None of the above

Q5. Schiff's reagent is

- (a) Decolourisation of magenta solution with sulphurous acid
- (b) Decolourisation of magenta solution with chlorine
- (c) Ammonical cobalt chloride solution
- (d) Ammonical manganese sulphate solution

Q6. Write the IUPAC name of the compound mentioned below.



Q7. Write the IUPAC and common name of $(\text{CH}_3)_3\text{CCHO}$.

Q8. How will you convert butyne to butan-2-one?

Q9. Name the reagents that can be used to bring about the following conversion.

- (a) Hexanol to hexanal
- (b) Cyclohexanol to cyclohexanone
- (c) 4- Fluoro toluene to 4- Fluoro benzaldehyde

Q10. What is the difference between a carbon-carbon double bond and a carbon-oxygen double bond?

Q11. Arrange the following carbonyl compounds in order of reactivities in the nucleophilic addition reaction.

Ethanal, propanal, propanone, and butanone.

Q12. Why is benzaldehyde less reactive than propanal?

Q13. Convert benzaldehyde to α - Hydroxy phenylacetic acid.

Q-14 Convert toluene to benzoic acid.

Q15. Molecules A and B are the two functional isomers of compound $\text{C}_3\text{H}_6\text{O}$. On heating with sodium hydroxide and iodine, isomer B forms a yellow iodoform precipitate, whereas isomer A does not form any yellow iodoform precipitate. Write the chemical formulae of molecules A and B.

Q16. (a) Write down functional isomers of a carbonyl compound with molecular formula C_3H_6O .

(b) Which isomer of C_3H_6O will give a fast reaction with HCN? Give a reason for your answer.

(c) What will affect the product's concentration if a potent acid is added to the reaction mixture?

Q17. Which Grignard reagent would be used to make the following conversions.

(a) Acetophenone to 2-Phenyl-2-butanol.

(b) Cyclohexanone to 1-Propylcyclohexanol.

Q18. Identify A in the following reaction.



Q19. An unknown aldehyde 'A' on reacting with alkali gives a β -hydroxy-aldehyde, which loses water to form an unsaturated aldehyde, 2-butenal. Another aldehyde, B, undergoes a disproportionation reaction in the presence of concentrated alkali to form products C and D. C is aryl alcohol with the formula C_7H_8O .

(a) Identify A and B.

(b) Write the sequence of reactions involved.

(c) Name the product when 'B' reacts with zinc amalgam and hydrochloric acid.

Q20. An organic compound (A) with molecular formula C_8H_8O forms an orange-red precipitate with 2, 4-DNP reagent and gives yellow precipitate on heating with iodine in the presence of sodium hydroxide. It neither reduces Tollen's reagent or Fehling solution, nor does it decolorise bromine water or Baeyer's reagent. On severe oxidation with chromic acid, it gives a carboxylic acid (B) having molecular formula $C_7H_6O_2$. Identify the compound (A) and (B).