

## CARBONYL COMPOUNDS

Std. XII  
CHEMISTRY

Time: 1½  
Max.Marks: 75

## PART - I

Choose the correct answer

(15 × 1 = 15)

- The chain isomer of 2-methyl propanal is
  - 2 - butanone
  - butanal
  - Iso butyl alcohol
  - 2 - methyl propanol
- The hybridization of carbon in - CHO group is
  - sp
  - sp<sup>2</sup>
  - sp<sup>3</sup>
  - d<sup>2</sup>sp<sup>2</sup>
- Methyl ketones are usually characterised by
  - Iodoform test
  - Fehling solution
  - Tollen's reagent
  - Schiff's test
- Aldehydes without α - hydrogen undergo
  - Polymerization
  - Claisen reaction
  - Cannizzaro reaction
  - Aldol condensation
- The compound that does give iodoform is
  - acetophenone
  - isopropyl alcohol
  - benzophenone
  - 2-pentanol
- The formation of a cyanohydrin with a ketone is an example of
  - electrophilic substitution
  - nucleophilic substitution
  - nucleophilic addition
  - electrophilic addition
- A compound that gives a positive Iodoform test is
  - 1-pentanol
  - 2-pentanone
  - 3-pentanone
  - pentanal
- The compound which does not reduce Fehling solution is
  - formaldehyde
  - benzaldehyde
  - acetaldehyde
  - propionaldehyde
- Schiff's reagent gives pink colour
  - acetone
  - ethanol
  - acetaldehyde
  - ether
- Aldol is
  - 2-hydroxy butanol
  - 3-hydroxy butanal
  - 3-hydroxy butanol
  - 2-hydroxy butanal
- Which one of the following is used as hypnotic
  - para formaldehyde
  - formaldehyde
  - acetaldehyde
  - paraldehyde
- Schiff's base is obtained when benzaldehyde reacts with
  - alkali
  - ammonia
  - aniline
  - benzoin

13. The oil of bitter almond is  
 a formaldehyde  
 c benzaldehyde  
 b acetaldehyde  
 d acetone
14. By dry distillation of calcium benzoate alone, it gives  
 a acetone  
 c benzophenone  
 b acetophenone  
 d propanone
15. Aldehyde can be distinguished from ketones by  
 a Conc.  $H_2SO_4$   
 c pyrogallol  
 b Fehling's solution  
 d bromine water

**PART - II**

(10 × 3 = 30)

**Answer all the questions**

16. Give the IUPAC names for the following?  
 (i) Crotonaldehyde  
 (ii) Methyl n-propyl ketone  
 (iii) Phenyl acetaldehyde
17. What is Urotropine? Give its use.
18. Write note on haloform reaction
19. Give two tests for aldehyde
20. Write note on Rosenmund reduction
21. What is Schiff's base? Write equation for the its formation.
22. What is benzhydrol? How is it formed from benzophenone?
23. How is acetophenone prepared by Friedel-Crafts reaction?
24. What is chloretone? How is formed?
25. Mention the industrial uses of formaldehyde.

**PART - III**

(4 × 5 = 20)

**Answer all the questions**

26. Given any five differences between acetaldehyde and acetone
27. Write note on  
 (i) Perkins reactions (ii) Knoevenagal reaction (iii) Clemmenson reduction.
28. Explain the mechanism of Cannizaro's reaction
29. How is acetone converted to (i) Mesitylene (ii) Mesityloxyde.

**PART - IV**

(10 × 1 = 10)

**Answer all the questions**

30. (a) Explain the mechanism of aldol condensation of acetaldehyde  
 (b) An organic compound A of molecular formula  $C_7H_6O$  is not reduced by Fehling's solution but will undergo Cannizzaro reaction. Compound A reacts with aniline to give compound B. Compound A also reacts with  $Cl_2$  in the presence of catalyst to give compound C. Identity A, B, C and explain the reactions