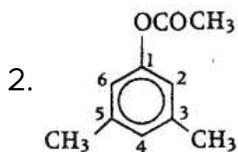


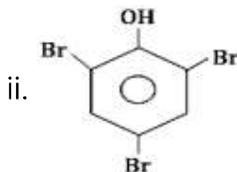
Solution
CARBONYL COMPOUNDS ONE MARK QUESTIONS
Class 12 - Chemistry

1. Pentane-2,4-dione



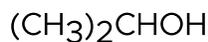
IUPAC Name: 3, 5-dimethyl phenyl ethanoate

3. i. No reaction possible at 273 K/CH₃CHO at 573 K

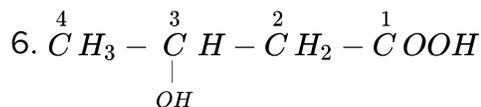


4. a. Propane or CH₃CH₂CH₃ is formed / CH₃COCH₃ $\xrightarrow{\text{Zn-Hg, HCl (conc.)}}$ CH₃CH₂CH₃

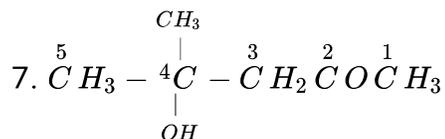
b. Propan-2-ol or Isopropyl alcohol or (CH₃)₂CHOH is formed / CH₃CHO $\xrightarrow{\text{i) CH}_3\text{MgBr}}$
 $\xrightarrow{\text{ii) H}_2\text{O}}$



5. 6-Chloro-4-ethylhexan-3-one



IUPAC Name: 3-hydroxybutanoic acid

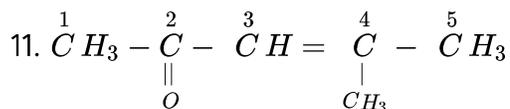


The IUPAC name is 4-hydroxy-4-methyl pentane-2-one.

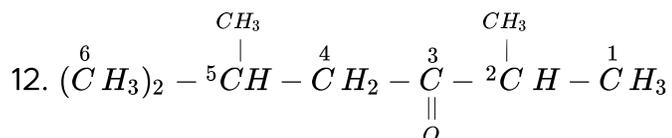
8. As there is no α-H is present.

9. 3,3,5-Trimethylhexan-2-one

10. 3-Methylbut-2-enoic acid

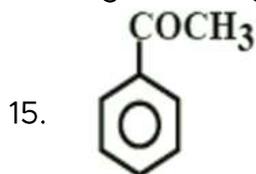
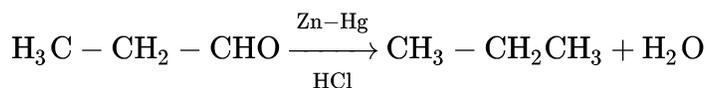


The IUPAC name is 4-methylpent-3-en-2-one



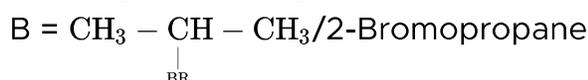
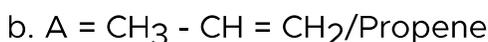
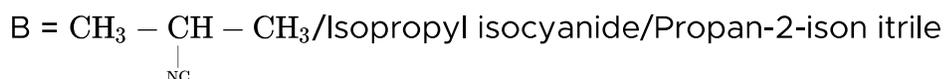
The IUPAC name is 2, 5-dimethylhexan-3-one

13. The carboxyl group of aldehydes and ketones is reduced to CH₂ group on treatment with zinc-amalgam and concentrated hydrochloric acid (Clemmensen reduction)

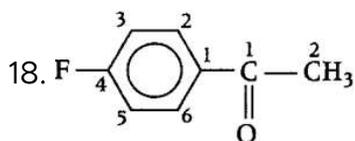


Acetophenone

As 'A' does not give Fehling's or Tollens test so it does not have -CHO group but it gives positive iodoform test and DNP test so it has $\text{CH}_3 - \text{C}-$ groups



17. $\text{CH}_3\text{CH}_2\text{CH}_2\text{COCH}_3$ will give iodoform test as it has a terminal keto methyl group.



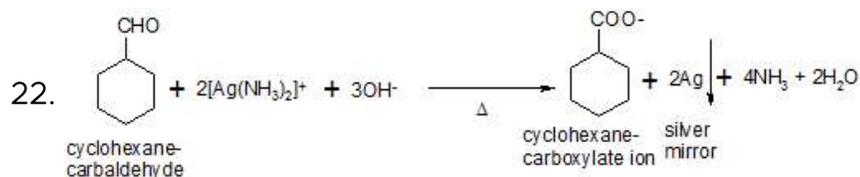
The IUPAC name is 4-fluoro phenyl ethanone

19. The IUPAC name is 2-methylpropan-1-ol.

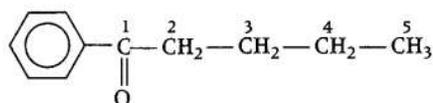
20. **IUPAC Name:** Diphenylmethanone **Common Name:** Benzophenone

21. CH_3CHO is more reactive than CH_3COCH_3 towards reaction with HCN due to following reasons:

1. Steric reason
2. Electronic reason
3. Inductive effect



23. The structural formula of 1-phenyl pentan-1-one.

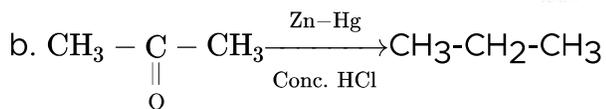
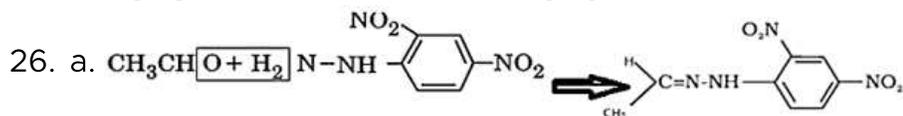
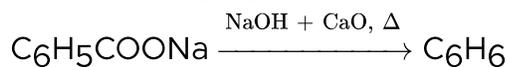


24.	SN1	SN2
	Produces racemic mixture	Gives inversion of configuration

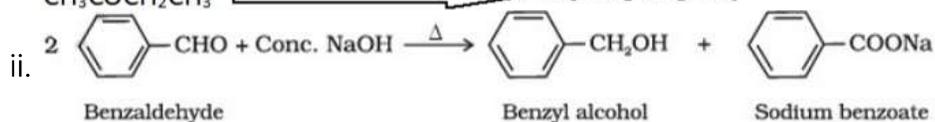
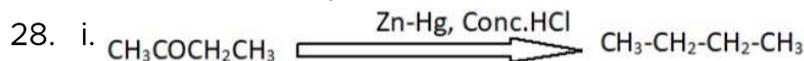
25. a. 2-Methylbutan-2-ol / $(\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\text{CH}_3$ is formed / $\text{CH}_3\text{COCH}_2\text{CH}_3 \xrightarrow[\text{ii) H}_2\text{O}]{\text{i) CH}_3\text{MgBr}}$



b. Benzene / C_6H_6 is formed



27. **IUPAC Name:** Heptanal; **Common name:** Oenanthaldehyde, Heptylaldehyde, Enanthole



29. i. 5-Chloro-3-ethylpentan-2-one.

ii. 5-Chloro-3-methyl pentan-2-one

30. IUPAC name of the given compound is Cyclohexanecarbaldehyde.