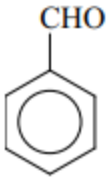
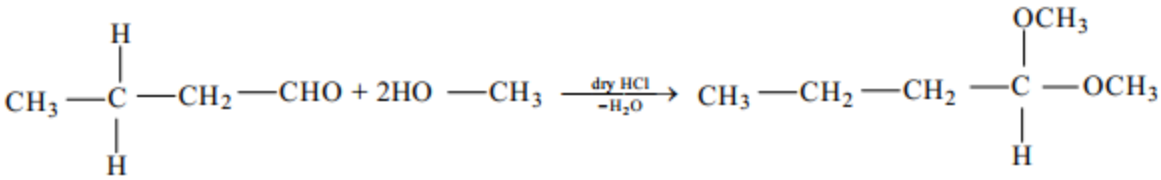
CHAPTER - 20
ALDEHYDES AND KETONES

1. 2 A =  , B = 

2. 2 Reactions (1), (3) and (4) can give benzaldehyde

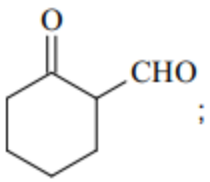
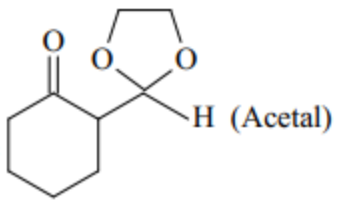
3. 4 Dialkyl cadmium reacts with acid chlorides to produce ketones. Dialkyl cadmium is less reactive than Grignard reagent.

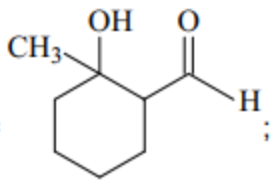
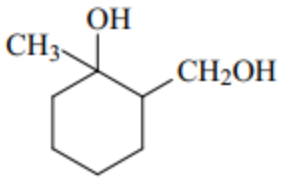
4. 4 Reaction (4) gives ketone

5. 4 

6. 4 Grignard reagent can react with both aldehydes and ketones

7. 4 Reaction of aldehydes/ketones with NH_3 and its derivatives are examples of nucleophilic addition -elimination reactions.

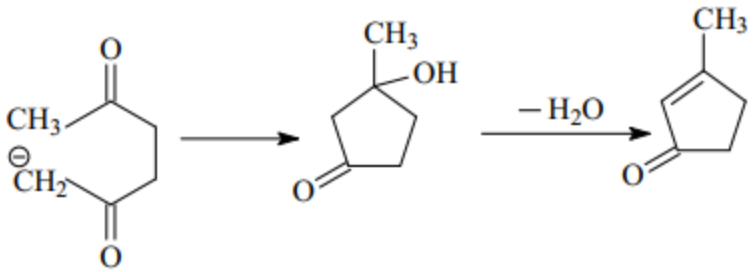
8. 2 A=  ; B =  (Acetal)

C =  ; D = 

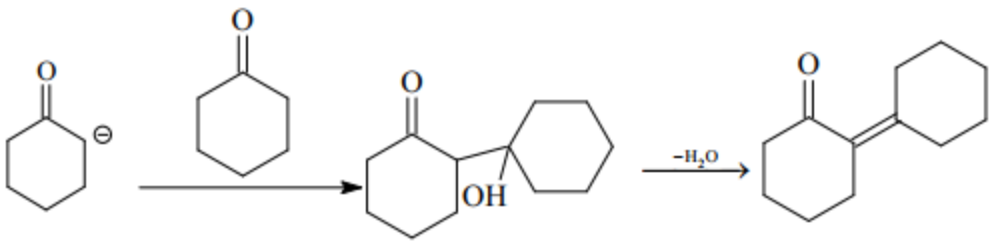
9. 1 Ketones are not further oxidised

10. 3 Name reactions

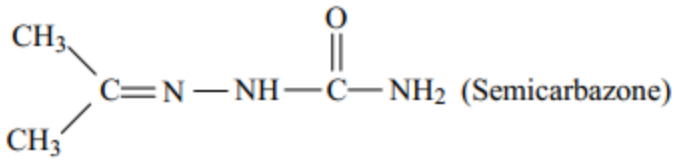
11. 3



12. 2



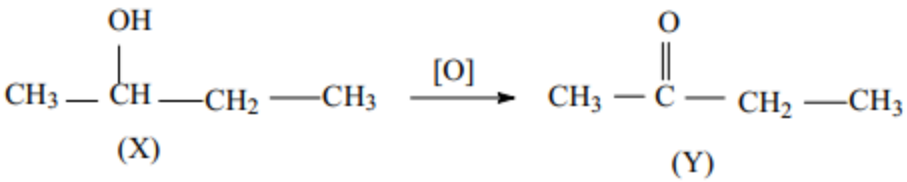
13. 3



14. 1 Benzaldehyde gives +ve Tollen's test but –ve Fehling's test

15. 4 Compounds 1, 2, 4 and 5 give +ve iodoform test

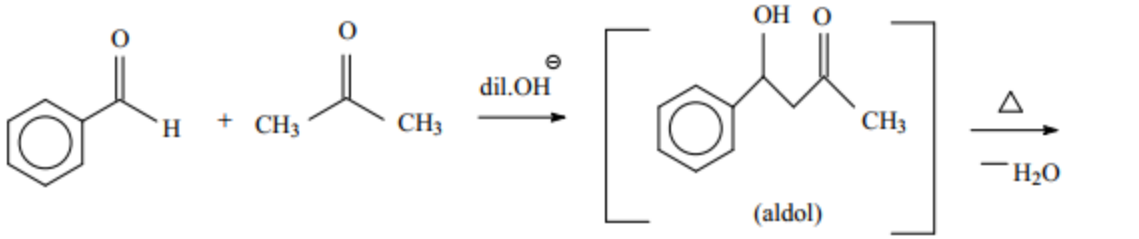
16. (B)

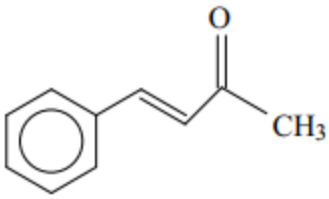


→ gives oxime

→ gives +ve iodoform test

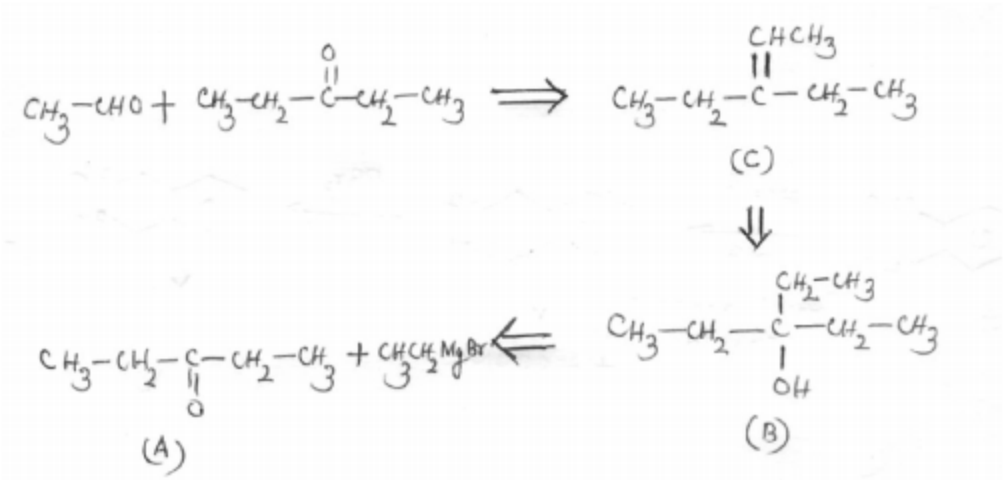
17. C





Benzalacetone

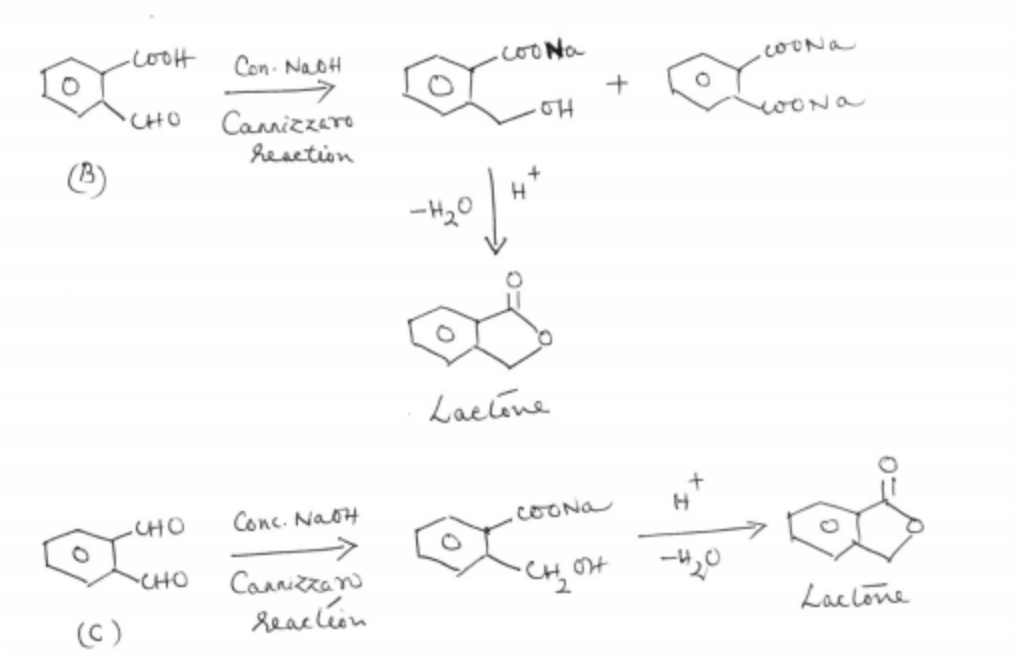
18. 2



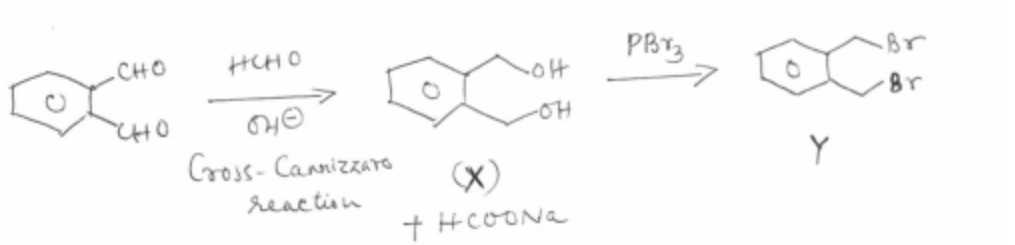
19. (D) Acetophenone can give positive iodoform test; Benzophenone gives negative iodoform test.

20. (BD) Aliphatic aldehydes can give positive Fehling's test

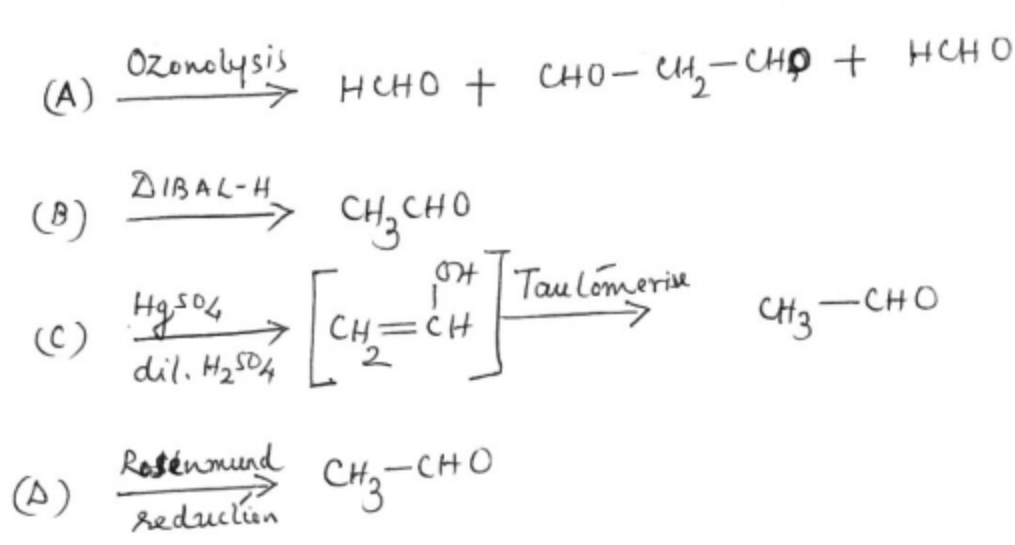
21. (BC)



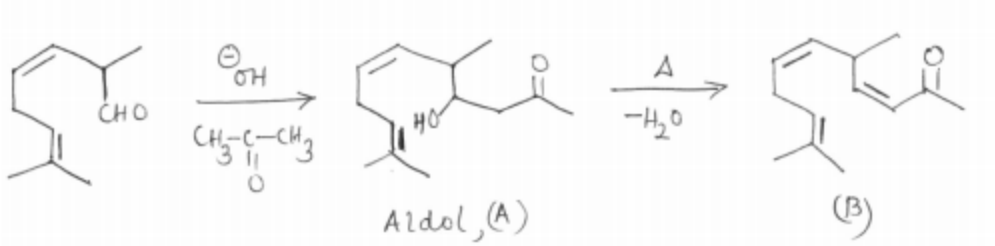
22. AD



23. BCD



24. 4.00

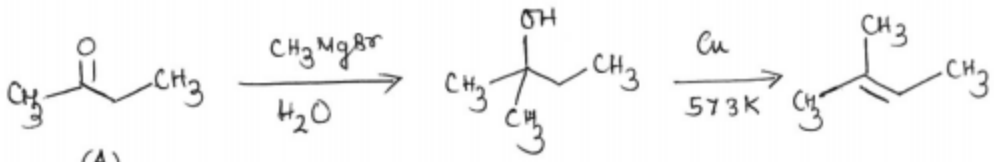


Aldol, (A) (B)

25. 8.00

Compounds 1, 3, 5, 6, 7, 8, 9 and 10 can give positive Tollen's test

26. 66.66 or 66.67



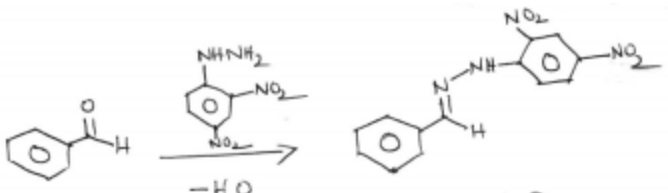
(A) (B)

$$\text{Mass \% of Carbon in (A)} = \frac{48\,g}{72\,g} \times 100 = 66.66\ \%$$

27. 3.00

Presence of electron withdrawing groups enhances the reactivity of aldehydes towards HCN.
Compounds 2, 4 and 6 are more reactive than p-chlorobenzaldehyde.

28. 286.00



$C_{13}H_{10}N_4O_4$

Molar mass = 286 $g\,mol^{-1}$.

29. D

Reaction	Product
(I)	$CH_3CH_2CH_3$ (Clemmensen reduction)
(II)	CH_3CH_2OH (Catalytic reduction)
(III)	$CH_3-\overset{O}{\overset{\|}{C}}-CH_3$ (Wacker oxidation)
(IV)	CH_3-COOH (Iodoform test)

30. B