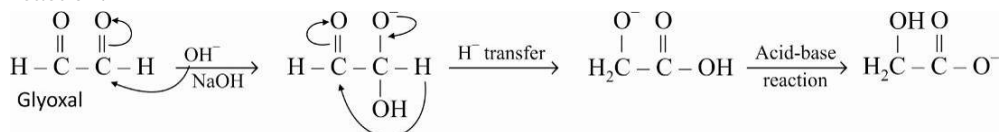


Daily Tutorial Sheet-7

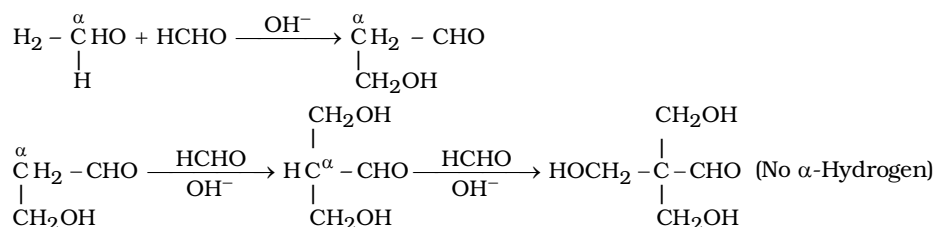
Level-2

86.(C) In CH_3CHO , α -H is acidic which is lost to OH^- (as base) and an enolate anion (resonance stabilised) is formed. This enolate adds to other aldehydes molecule to give an aldol. In HCHO , there is no α -H and hence OH^- as Nu^- adds to carbonyl carbon. (Visualise mechanism of Cannizzaro reaction), so option (C) is clearly correct.

87.(ABC) $(\text{CHO})_2$: Glyoxal and $\text{ph} - \text{COCHO}$ (phenyl glyoxal) also give intramolecular (internal) Cannizzaro reaction.



88.(ABCD) "Visualise successive aldol condensation reaction."



i.e., A is $(\text{HOCH}_2)_3\text{CCHO}$

- Observe that it does not have α -H, so it can now show Cannizzaro reaction (cross) with HCHO .
- It can reduce Tollen's reagent also
- It reacts with Na due to $-\text{CH}_2\text{OH}$ groups.
- It can be oxidised to acid with $\text{Cr}_2\text{O}_7^{2-}/\text{H}^+$ to give green colour due to Cr^{3+} ions.

Hence all options A, B, C, D are correct.

89.(AC) $(\text{HOCH}_2)_3\text{C} - \text{CHO} + \text{HCHO} \xrightarrow{\text{OH}^-} \text{HCOONa} + \text{C}(\text{CH}_2\text{OH})_4$
(Cross-Cannizzaro reaction)

90.(ACD) $\text{C}_6\text{H}_5 - \text{CO} - \text{CH}_3 \xrightarrow{\text{SeO}_2} \text{C}_6\text{H}_5 - \text{CO} - \text{CO} - \text{H}$ (X)

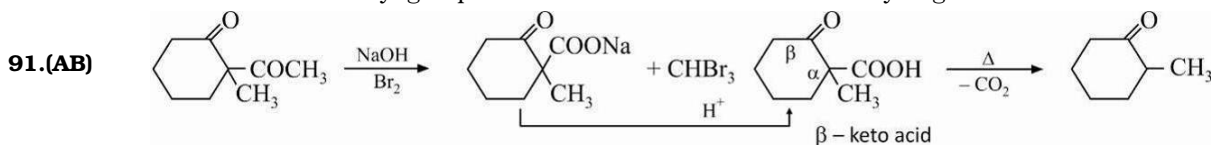
SeO_2 oxidises α -methyl and α -methylene groups to keto groups.

A : Correct due to aldehyde group

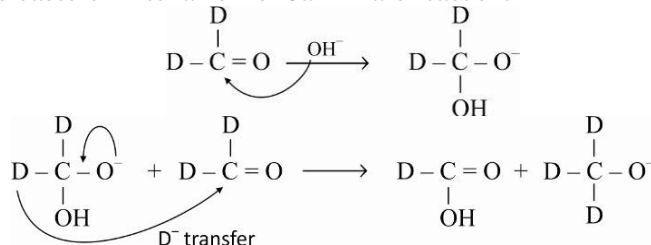
B : No iodoform test as there is no $\text{CH}_3\text{CO} -$ group.

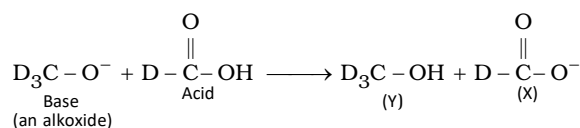
C : It has two carbonyl group

D : It has no α -hydrogen

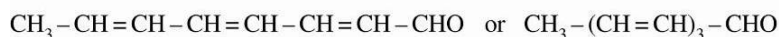
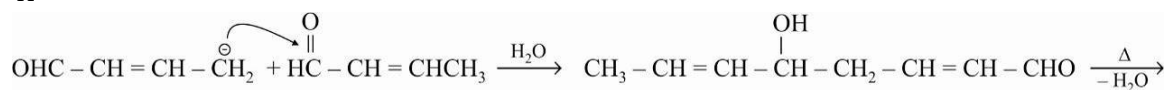
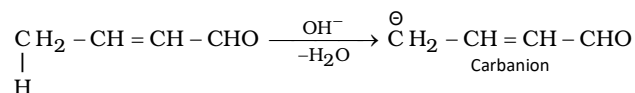


92.(A) It is based on Mechanism of Cannizzaro reaction.

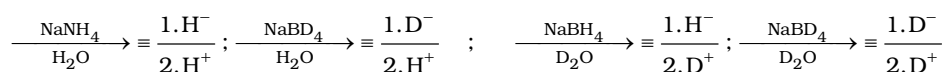




- 93.(A)** Observe carefully that for dehydrated aldol condensation, two α -H atom should be there in aldehyde. Here $-\text{CHO}$ group is attached to vinylic carbon. Hence, CH_3 group attached to vinyl carbon will lose α -H carbon to NaOH for generating resonance stabilised carbanion.



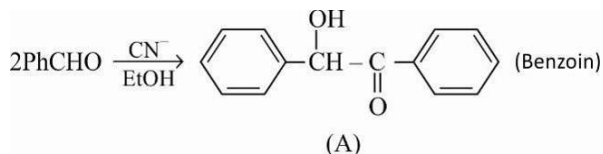
- 94.(B)** Visualise the action of $\text{NaBH}_4 / \text{H}_2\text{O}$ as follows :



Apply the concept on 2-Butanone to confirm option (B) as answer.

- 95.(ABCD)**

Visualise benzoin condensation.



Benzoin will reduce Tollen's reagent as it is a α -Hydroxy ketone. Clearly, It will form oxime. It will be oxidised (2° ol) by PCC to benzil (PhCOCOPh) and will give Brady's reagent orange precipitate test for sure.