Date Planned : __ / __ / __	Daily Tutorial Sheet-7	Expected Duration : 30 Min
Actual Date of Attempt : __ / __ / __	Level-2	Exact Duration :_____

PARAGRAPH FOR QUESTION 86 – 89

Aldehydes containing no α-hydrogen atom, when treated with concentrated alkali (aqueous or alcoholic), undergo self oxidation-reduction to yield a mixture of an alcohol and a salt of a carboxylic acid. This reaction, known as Cannizzaro reaction, is carried out at room temperature. Cannizzaro reaction may be crossed, e.g.,

$$C_6H_5CHO + HCHO \xrightarrow{\text{conc. NaOH}} C_6H_5CH_2OH + HCOONa$$

Further, Cannizzaro reaction may be internal (intramolecular).

86. Aldehydes, having α-hydrogen atom, undergo reaction in different way.

$$2CH_3CHO \xrightarrow{OH^-} CH_3\overset{OH}{\overset{|}{C}}HCH_2CHO$$

Which of the following statement is correct ?

(A) Different behaviour of CH_3CHO and HCHO is due to difference in their acidic character

(B) Both reactions (Cannizzaro reaction and aldol condensation) involve nucleophilic addition

(C) Both are correct

(D) None is correct

***87.** Which of the following can undergo Cannizzaro reaction ?

(A) C_6H_5CHO **(B)** $CHO \cdot CHO$ **(C)** $C_6H_5\overset{O}{\overset{\|}{C}}CHO$ **(D)** $C_6H_5CH_2CHO$

***88.** $3HCHO + CH_3CHO \xrightarrow{NaOH} A$. A formed can :

(A) reduce Tollen's reagent **(B)** give Cannizzaro reaction

(C) react with Na **(D)** give green colour with $Cr_2O_7^{2-}/H^+$

***89.** 'A' formed (above) further reacts with HCHO in NaOH to give :

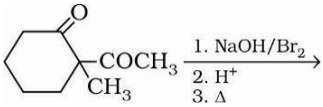
(A) $HOH_2C-\overset{CH_2OH}{\overset{|}{\underset{CH_2OH}{\underset{|}{C}}}}-CH_2OH$ **(B)** $HOH_2C-\overset{CH_2OH}{\overset{|}{\underset{CH_2OH}{\underset{|}{C}}}}-COONa$

(C) HCOONa **(D)** (A) and (B)

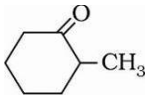
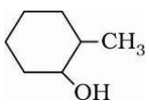
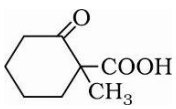
***90.** $C_6H_5-\overset{O}{\overset{\|}{C}}-CH_3 \xrightarrow{SeO_2} X$, X will :

(A) reduce Tollen's reagent **(B)** give iodoform test

(C) form dioxime **(D)** give Cannizzaro reaction

***91.** 

Products in above reaction is(are) :

(A) $CHBr_3$ **(B)**  **(C)**  **(D)** 

92. $2D-\overset{D}{\underset{|}{C}}=O+OH^- \xrightarrow{\text{Cannizzaro}}$ X and Y :

(Y is alcohol, D is deuterium) X and Y will have structure :

(A) $D-\overset{O}{\overset{||}{C}}-O^-,\ D-\overset{D}{\underset{D}{\overset{|}{\underset{|}{C}}}}-OH$ **(B)** $D-\overset{O}{\overset{||}{C}}-O^-,\ D-\overset{D}{\underset{H}{\overset{|}{\underset{|}{C}}}}-OH$

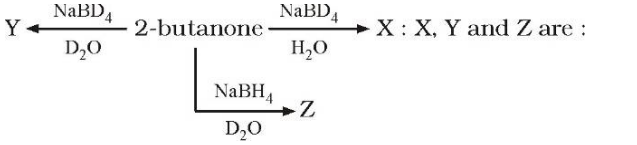
(C) $H-\overset{O}{\overset{||}{C}}-O^-,\ D-\overset{D}{\underset{D}{\overset{|}{\underset{|}{C}}}}-OH$ **(D)** None is correct

93. $CH_3-CH=CH-CHO \xrightarrow[\text{aldol}]{OH^-} \xrightarrow{\Delta}$ A; A is :

(A) $CH_3(CH=CH)_3CHO$ **(B)** $CH_3CH_2CH_2(CH=CH)_2CHO$

(C) $CH_3(CH_2CH_2)_2CH=CH-CHO$ **(D)** None is correct

94. Consider reduction of 2-butanone :



(A) $CH_3-\overset{OH}{\underset{D}{\overset{|}{\underset{|}{C}}}}-CH_2CH_3, CH_3-\overset{OH}{\underset{D}{\overset{|}{\underset{|}{C}}}}-CH_2CH_3, CH_3-\overset{OD}{\underset{H}{\overset{|}{\underset{|}{C}}}}-CH_2CH_3$

(B) $CH_3-\overset{OH}{\underset{D}{\overset{|}{\underset{|}{C}}}}-CH_2CH_3, CH_3-\overset{OD}{\underset{D}{\overset{|}{\underset{|}{C}}}}-CH_2CH_3, CH_3-\overset{OD}{\underset{H}{\overset{|}{\underset{|}{C}}}}-CH_2CH_3$

(C) $CH_3-\underset{OH}{\overset{|}{\underset{|}{CH}}}-CH_2CH_3$ in all cases

(D) $CH_3-\overset{OH}{\overset{|}{\underset{|}{CD}}}-CH_2CH_3$ in all cases

***95.** Benzaldehyde $\xrightarrow[\text{EtOH}]{KCN}$ A. A will :

(A) Reduce Tollen's reagent **(B)** Forms oxime

(C) Oxidized by PCC **(D)** Reacts with 2, 4-DNP