Date Planned : __ / __ / __	Daily Tutorial Sheet-8	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-2	Exact Duration :_____

96. The major product formed in the reaction $C_6H_5CHO + CH_3COOC_2H_5 \xrightarrow[C_2H_5OH,\ heat]{C_2H_5ONa}$ is :

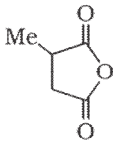
(A) $C_6H_5CH(OH)CH_2COOC_2H_5$ **(B)** $C_6H_5COCH_2COOC_2H_5$

(C) $C_6H_5CH = CHCOOC_2H_5$ **(D)** $C_6H_5COCOCH_3$

97. The major product (Y) formed in the reaction sequence

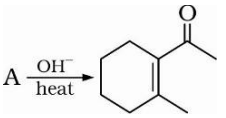
$$CH_2(CO_2Et)_2 \xrightarrow[2.\ CH_3CHBrCO_2Et]{1.\ EtONa} X \xrightarrow[3.\ 150°C]{1.\ NaOH,\ heat;\ 2.\ H_3O^+} Y \text{ is :}$$

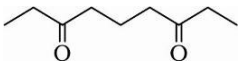
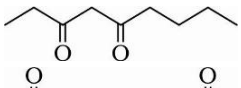
(A) $CH_3CH(CH_2COOH)COOH$ **(B)** $CH_3CH_2CH(CH_2COOH)COOH$

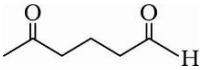
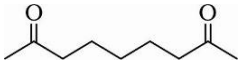
(C) $(CH_3)_2CHCOOH$ **(D)** 

PARAGRAPH FOR QUESTIONS 98 - 100

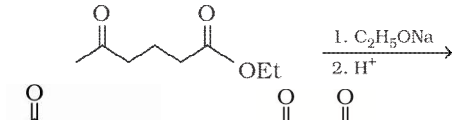
An intra-molecular interaction is possible in a compound where both a carbanion (Nucleophile) and a carbonyl group (electrophilic centre) is present. This is most favourable when it (cyclisation) leads to a product containing a five or six membered ring.

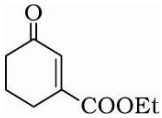
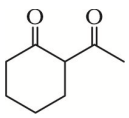
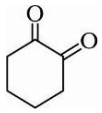
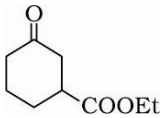
98.  A can be :

(A)  **(B)** 

(C)  **(D)** 

99. Identify the product in the following reaction ?



(A)  **(B)**  **(C)**  **(D)** 

***100.** Consider the reaction sequence :

$$BrMg(CH_2)_5MgBr + CH_3-\overset{\overset{O}{\|}}{C}-OC_2H_5 \xrightarrow{\text{Step 1}} (X) \xrightarrow{\text{Step 2}} \underset{OH}{\overset{CH_3}{\bigcirc}}\ (Y)$$

Which of the following is(are) correct ?

(A) (X) in the above reaction contains a nucleophilic carbon and a carbonyl group

(B) Step 2 illustrate addition reaction

(C) (Y) can be oxidised to give a cycloalkanone

(D) (X) can react with H_2O in a typical acid-base reaction

101. In which case cyclic amide is formed by heating?

(A) $CH_2CH_2\underset{\underset{NH_2}{|}}{C}HCOOH$ **(B)** $CH_3CH\underset{\underset{NH_2}{|}}{C}HCH_2COOH$

(C) $\underset{\underset{NH_2}{|}}{CH_2}CH_2CH_2COOH$ **(D)** All of these cases

102. Acyl S_N reaction is not possible $\left[R-\overset{\overset{O}{\|}}{C}-X + Y^{\ominus} \longrightarrow R-\overset{\overset{O}{\|}}{C}-Y + X^{\ominus}\right]$ when :

(A) X is NH_2 and Y is Cl **(B)** X is OH and Y is NH_2

(C) X is Cl and Y is OH **(D)** X is OR and Y is NH_2

103. $CH_3\overset{*}{\underset{\underset{C_2H_5}{|}}{C}}HOH$ reacts with CH_3COCl. Product formed :

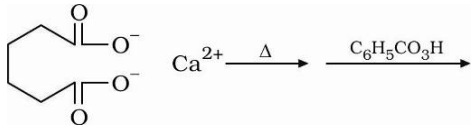
(A) has retained configuration about chiral carbon (*)

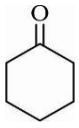
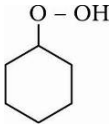
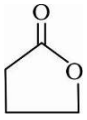
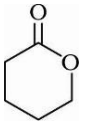
(B) is racemic mixture

(C) loses chirality

(D) shows geometrical isomerism

104. Identify the end product of



(A)  **(B)**  **(C)**  **(D)** 

105. $R\underset{\underset{NH_2}{\|}}{\overset{\overset{O}{\|}}{C}}$ and $R\underset{\underset{OH}{\|}}{\overset{\overset{O}{\|}}{C}}$ can be best distinguished using :

(A) KOH / Br_2 **(B)** $SOCl_2$

(C) $NaNO_2$ & conc. HCl **(D)** Neutral $FeCl_3$ Solution