

Daliy Tuluffal Sifeet-5 Level-2	Daily Tutorial Sheet-9	Level-2
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**106.(A)** Generally esterification involve acyl-o-cleavage mechanism but in case of esterification of 3°alcohol product is formed according to alkyl-o-cleavage mechanism.

107.(D) 
$$COOH$$
  $COOH$   $COOH$ 

**Note:** Hoffmann's rearrangement is an intramolecular rearrangement, hence retention of configuration occurs.

Hofmann's rearrangement

108.(A) Ph 
$$\stackrel{\text{NaCN}}{\longrightarrow}$$
 Ph  $\stackrel{\text{NaCN}}{\longleftarrow}$  Ph  $\stackrel{\text{CN}}{\longrightarrow}$  Ph  $\stackrel{\text{H}_3O^{\oplus}}{\longrightarrow}$  Ph  $\stackrel{\text{C}}{\longrightarrow}$  Ph  $\stackrel{\text{C}}{\longrightarrow}$  Ph  $\stackrel{\text{C}}{\longrightarrow}$  O  $\stackrel{\text{R}_3O^{\oplus}}{\longrightarrow}$  Ph  $\stackrel{\text{C}}{\longrightarrow}$  O  $\stackrel{\text{R}_3O^{\oplus}}{\longrightarrow}$  Ph  $\stackrel{\text{C}}{\longrightarrow}$  O  $\stackrel{$ 

110.(D) 
$$OH \xrightarrow{5 \mid 2} OH \xrightarrow{H_2SO_4} 2 \xrightarrow{1C} O5$$
 (Lactone)
Intramolecular esterification

111.(C) 
$$OH \xrightarrow{Conc. H_2SO_4} CO_2 + CO + H_2O$$

112.(B) 
$$CH_2 - CN + NH_2^- \xrightarrow{-NH_3} \overline{CH_2 - CN} \xrightarrow{CH_3Br} CH_3CH_2CN$$

113.(ABC)

$$R - C - O - CH_{3} \xrightarrow{OH^{-}} R - C - O - CH_{3} \xrightarrow{elimination} R - C - OH + CH_{3}O \xrightarrow{18} CH_{3}OH + R - C - OH + CH_{3}O \xrightarrow{18} CH_{3}OH + R - C - OH + CH_{3}O \xrightarrow{18} CH_{3}OH + R - C - OH + CH_{3}O \xrightarrow{18} CH_{3}OH + R - C - OH + CH_{3}O \xrightarrow{18} CH_{3}OH + R - C - OH + CH_{3}O \xrightarrow{18} CH_{3}OH + R - C - OH + CH_{3}OH + CH$$

so no reversible reaction

## 114.(ABCD)

It is a nucleophilic acyl substitution. (Claisen condensation)

$$\begin{array}{c} O \\ | \\ CH_3 - C - OEt \\ \hline (\alpha - H) \end{array} \xrightarrow{EtO^-} \bar{C}H_2 - COOEt \\ | \\ CH_3 - C - OEt \\ \hline (\alpha - H) \end{array} ; \quad \bar{C}H_2 - COOEt \\ | \\ CH_3 - C - OEt \\ \hline (\alpha - H) \xrightarrow{O} CH_3 - C - CH_2 - COOEt \\ | \\ CH_3 - C - CH_2 - COOEt \\ \hline (\alpha - H) \xrightarrow{O} OEt \\$$

Observe that a new -C - C - bond is formed.



115.(A) Clearly ester is : 
$$CH_3 - C - O - C_2H_5 \xrightarrow{LiAlH_4} \xrightarrow{1.EtONa} 2CH_3CH_2OH$$

O
O
O
Visualise Claisen condensation : A :  $CH_3 - C - CH_2 - C - OEt$  ( $\beta$ -keto ester)