

Date Planned ://	Daily Tutorial Sheet-1	Expected Duration : 90 Min
Actual Date of Attempt ://	JEE Main (Archive)	Exact Duration :

- 1. A compound with molecular mass 180 is acylated with CH_3COCl to get a compound with molecular mass 390. The number of amino groups present per molecule of the former compound is : (2013)
 - (A) 2 (B) 5 (C) 4
 - **(D)** 6
- 2. An organic compound A upon reacting with NH_3 gives B. On heating, B gives C. C in the presence of KOH reacts with Br_2 to give $CH_3CH_2NH_2$. A is: (2014)
 - (A) CH₃COOH

(B) $CH_3CH_2CH_2COOH$

(C) CH - CH - COOH | CH₃

- (**D**) CH_3CH_2COOH
- 3. In the presence of small amount of phosphorous, aliphatic carboxylic acids react with chlorine or bromine to yield a compound in which α -hydrogen has been replaced by halogen. This reaction is known as: (2015)
 - (A) Wolff Kishner reaction
- (B) Etard reaction
- (C) Hell Volhard Zelinsky reaction
- **(D)** Rosenmund reaction
- **4.** Bouveault-Blanc reduction reaction involves :

(2016)

- (A) Reduction of an acyl halide with H_2 / Pd
- **(B)** Reduction of an ester with Na/C_2H_5OH
- (C) Reduction of a carbonyl compound with Na/Hg and HCl
- **(D)** Reduction of an anhydride with LiAlH₄
- **5.** The major product expected from the following reaction is :

(2017)

$$\begin{array}{c|c} & \text{CH}_2\text{OH O} \\ & & \text{NH}_2 \\ \hline & \text{OH} \end{array} \xrightarrow{\text{HCl(g)/CCl}_4}$$

(B)

(D)



 $\textbf{6.} \hspace{15mm} \textbf{The major product obtained in the following reaction is:} \\$

(2017)

7. The increasing order of the reactivity of the following with $LiAlH_4$ is:

(2019)

- **A.** H_5C_2 NH_2
- C,H, OCH,
- c. C_2H_5 C
- C_2H_5

(A) (A) < (B) < (D) < (C)

(B) (B) < (A) < (C) < (D)

(C) (A) < (B) < (C) < (D)

- **(D)** (B) < (A) < (D) < (C)
- **8.** The decreasing order of ease of alkaline hydrolysis for the following esters is :

(2019)

$$CI$$
 COOC₂ H_5

$$O_2N$$
 COOC₂H₅ CH_3O CH₃O COOC₂H₅

(A) IV > II > III > I

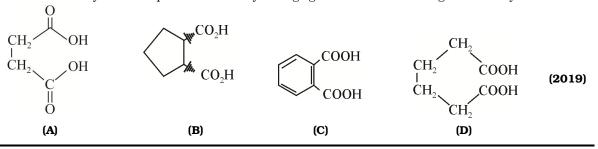
(B) III > II > IV > I

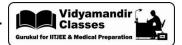
(C) II > III > I > IV

- (D) III > II > IV
- 9. An aromatic compound 'A' having molecular formula $C_7H_6O_2$ on treating with aqueous ammonia and heating forms compound 'B' the compound 'B' on reaction with molecular bromine and potassium hydroxide provides compound 'C' having molecular formula C_6H_7N . The structure of 'A' is: (2019)

CHO OHC
OH
OH
OH
(A)
(B)
(C)
(D)
$$COOH$$
 $CH=CH-CHO$

10. Which dicarboxylic acid in presence of a dehydrating agent is least reactive of given an anhydride?





11. The major product obtained in the following reaction is:

(2019)

(A)
$$\begin{array}{c} & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & &$$

(B)

(D)

ЮH

HO

ŇΗ₂

CH₃

 $\textbf{12.} \qquad \text{The major product of the following reaction is:} \\$

$$\begin{array}{c} \text{CH}_2\text{CH}_3 \\ \hline \\ \text{(i) alkaline KMnO}_4 \\ \hline \\ \text{(ii) H}_3\text{O}^+ \end{array}$$

- (B) CH₂COOH
- (C)
- COCH₃
- COOH

(D)

13. The major product of the following reaction is :

(2019)

$$CH_3CH = CHCO_2CH_3 - \frac{LiAIH_4}{}$$

(A) $CH_3CH_2CH_2CHO$

- (B) $CH_3CH_2CH_2CO_2CH_3$
- (C) $CH_3CH_2CH_2CH_2OH$
- (D) $CH_3CH = CHCH_2OH$
- **14.** The major product of the following reaction is:

(2019)

HO

(a)

$$CI$$

(b)

 CI

(b)

 CI

(c)

 CI

(d)

 CI

(e)

 CI

(e)

 CI

(f)

 CI

(g)

 CI

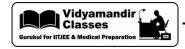
(g)

 CI

CI

(C)

O (D)



15. Identify (A) in the following reaction sequence :

$$(A) \xrightarrow{\text{(i) } CH_3MgBr} (B) \xrightarrow{O_3/Zn, H_2O}$$

$$(B) \xrightarrow{O_3/Zn, H_2O}$$

$$(CH_3)$$

$$(CH_3)$$

$$(CH_3)$$

$$(CH_3)$$

16. What is the product of the following reaction?

(2020)

$$\begin{array}{c} \text{Hex} - 3 - \text{ynal} & \xrightarrow{\text{(i) NaBH}_4} \\ \hline & \xrightarrow{\text{(ii) PBr}_3} \\ & \text{(iii) Mg/ether} \\ & \text{(iv) CO}_2/\text{H}_3\text{O}^+ \end{array}$$

17. The most suitable reagent for the given conversion is :

(2020)

$$CONH_2$$
 CH_3 $CONH_2$ $COCH_3$ $COCH_3$ $COCH_3$

(A) B_2H_6

(B) LiAlH₄

(C) H_2 / Pd

(**D**) NaBH $_4$