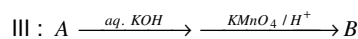
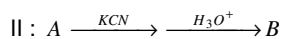
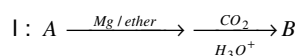


**Carboxy-Acid Assignment**

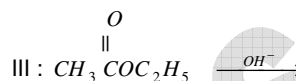
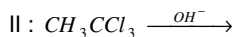
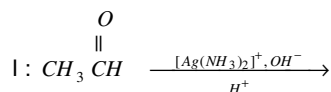
1. 4-bromo-1-butanol (A) can be converted into 5-hydroxy pentanoic acid (B) by following method (s)



Select the correct alternate

- (a) I, II, III (b) I, II (c) II, III (d) II

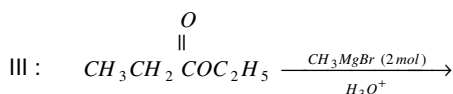
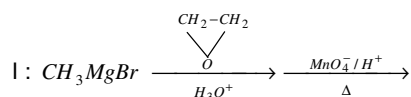
2. Consider the following reaction



Final product is acid in the

- (a) I, II, III (b) I, III (c) I, II (d) I

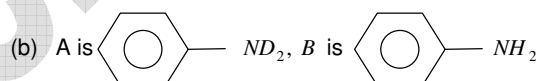
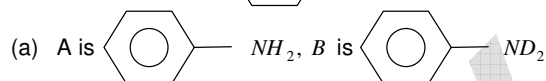
3. Consider the following reactions



Propanoic acid is the final product in

- (a) I, II and III (b) I and II (c) I and III (d) II and III

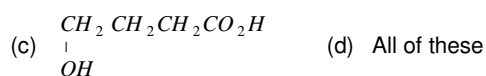
4.  $B \xleftarrow[2. KOD, Br_2, \Delta]{1. NH_3, \Delta} \text{C}_6\text{H}_5\text{COOH} \xrightarrow[2. KOH, Br_2, \Delta]{1. ND_3, \Delta} A$ , What are A and B



5. Maximum dehydration to form  $\alpha, \beta$ -unsaturated acid takes place in

- (a) Lactic acid (b) Glycolic acid (c) 3-hydroxy propanoic acid (d) Alanine

6. Which gives unsaturated acid on heating



7. Oxidation of toluene with  $CrO_3$  in the presence of  $(CH_3CO)_2O$  gives a product 'A' which on treatment with aqueous  $NaOH$  produces

- (a)  $C_6H_5CHO$  (b)  $(C_6H_5CO)_2O$  (c)  $C_6H_5COONa$  (d) 2,4-diacetyl toluene

8. Benzoic acid gives benzene on being heated with X and phenol gives benzene on being heated with Y. Therefore X and Y are respectively

- (a) Sodalime and copper (b) Zn dust and  $NaOH$  (c) Zn dust and sodalime (d) Sodalime and zinc dust

9. Oxalic acid on being heated upto  $95^\circ$  with conc.  $H_2SO_4$  forms

- (a)  $HCOOH + CO_2$  (b)  $CO_2 + H_2O$  (c)  $CO_2 + CO + H_2O$  (d)  $HCOOH + CO$

10. In the reaction  $ArNH_2 \xrightarrow[Cold]{NaNO_2 + HCl} A \xrightarrow{CuBr} B$ ; the compound B is

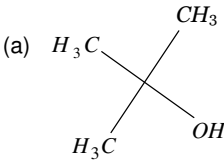
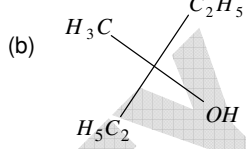
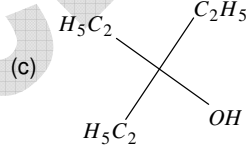
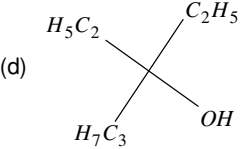
- (a)  $Ar-Br$  (b)  $Ar-NO_2$  (c)  $Ar-Cl$  (d)  $Ar-Ar$

11. In the esterification reaction of alcohols

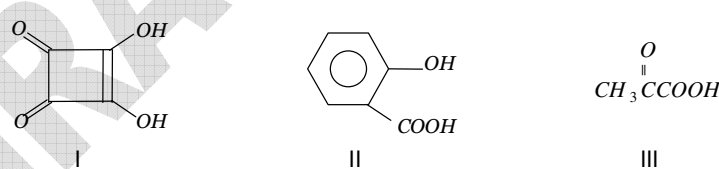
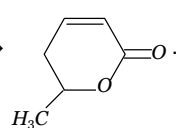
- (a)  $OH^-$  is replaced by  $C_6H_5OH$  (b)  $H^+$  is replaced by sodium metal  
(c)  $OH^-$  is replaced by chlorine (d)  $OH^-$  is replaced by  $CH_3COO^-$  group

12. Which of the following compounds will react with  $NaHCO_3$  solution to give sodium salt and carbon dioxide

## GRAVITY CLASSES

- (a) Phenol (b) *n*-hexanol (c) Acetic acid (d) Both (a) and (b)
13. What will happen if  $LiAlH_4$  is added to an ester  
 (a) Two units of alcohol are obtained (b) One unit of alcohol and one unit of acid is obtained  
 (c) Two units of acids are obtained (d) None of these
14. Reaction of ethyl formate with excess of  $CH_3MgI$  followed by hydrolysis gives  
 (a) *n*-propyl alcohol (b) Ethanal (c) Propanal (d) Isopropyl alcohol
15.  $HCOOH$  reacts with conc.  $H_2SO_4$  to produce  
 (a)  $CO$  (b)  $CO_2$  (c)  $NO$  (d)  $NO_2$
16. The reaction product of the reaction between  $C_6H_5NH_2$ ,  $CHCl_3$  and  $KOH$  are  
 (a)  $C_6H_5NC + KCl + H_2O$  (b)  $C_6H_5OH + NH_4Cl + H_2O$   
 (c)  $C_6H_5Cl + NH_4Cl + KCl$  (d)  $C_6H_5CN + KCl$
17. When propionic acid is treated with aqueous sodium bicarbonate  $CO_2$  is liberated. The 'C' of  $CO_2$  comes from  
 (a) Methyl group (b) Carboxylic acid group  
 (c) Methylene group (d) Bicarbonate
18. Benzoyl chloride is prepared from benzoic acid by  
 (a)  $Cl_2, hv$  (b)  $SO_2Cl_2$  (c)  $SOCl_2$  (d)  $Cl_2, H_2O$
19. In the reaction  
 $CH_3COOH \xrightarrow{LiAlH_4} (A) \xrightarrow{I_2+NaOH} (B) \xrightarrow{Ag\ Dust} (C)$  the final product (C) is  
 (a)  $C_2H_5I$  (b)  $C_2H_5OH$  (c)  $C_2H_2$  (d)  $CH_3COCH_3$
20. In the Gabriel's phthalimide synthesis, phthalimide is treated first with  
 (a)  $C_2H_5I / KOH$  (b) Ethanolic Na (c) Ethanol and  $H_2SO_4$  (d) Ether and  $LiAlH_4$
21. Ethyl ester  $\xrightarrow[\text{excess}]{CH_3MgBr} P$ . The product  $P$  will be  
 (a)  (b)  (c)  (d) 
22. In a set of the given reactions, acetic acid yielded a product  $C$ ;  $CH_3COOH + PCl_5 \rightarrow A \xrightarrow[\text{anh. } AlCl_3]{C_6H_6} B \xrightarrow[\text{ether}]{C_2H_5MgBr} C$ . Product  $C$  would be  
 (a)  $CH_3 - \overset{C_2H_5}{\underset{|}{C}}(OH)C_6H_5$  (b)  $CH_3CH(OH)C_2H_5$  (c)  $CH_3COC_6H_5$  (d)  $CH_3CH(OH)C_6H_5$
23. Two moles of acetic acid are heated with  $P_2O_5$ , The product formed is  
 (a) 2 moles of ethyl alcohol (b) Formic anhydride (c) Acetic anhydride (d) 2 moles of methyl cyanide
24. Which of following is formed when cyanic acid is hydrolysed  
 (a) Ethane (b) Ammonia (c) Ethyl alcohol (d) Nitroethane
25. What is the main reason for the fact that carboxylic acids can undergo ionization  
 (a) Absence of  $\alpha$ -hydrogen (b) Resonance stabilisation of the carboxylate ion  
 (c) High reactivity of  $\alpha$ -hydrogen (d) Hydrogen bonding
26. The vapour of carboxylic acid  $HA$  when passed over  $MnO_2$  at 573 K yields propanone. The acid  $HA$  is  
 (a) Methanoic acid (b) Ethanoic acid (c) Propanoic acid (d) Butanoic acid
27. The principal organic product formed in the reaction  $CH_2 = CH(CH_2)_8COOH + HBr \xrightarrow{\text{peroxide}}$  is  
 (a)  $CH_3CHBr(CH_2)_8COOH$  (b)  $CH_2 = CH(CH_2)_8COBr$   
 (c)  $CH_2BrCH_2(CH_2)_8COOH$  (d)  $CH_2 = CH(CH_2)_7CHBrCOOH$
28. An acyl halide is formed when  $PCl_5$  reacts with an  
 (a) Acid (b) Alcohol (c) Amide (d) Ester
29. **Assertion** : Acetic acid does not undergo haloform reaction  
**Reason** : Acetic acid has no alpha hydrogens  
 (a) Both assertion and reason are correct and reason is the correct explanation of assertion  
 (b) Both assertion and reason are correct but reason is not the correct explanation of assertion

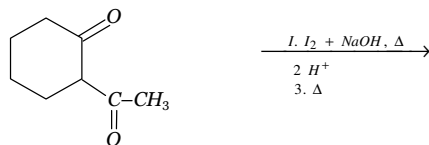
## GRAVITY CLASSES

- (c) Assertion is correct but reason is incorrect  
 (d) Both *A* and *R* are false  
 (e) *A* is false but *R* is true
30. Hydrogenation of  $C_6H_5CHOH - COOH$  over  $Rh - Al_2O_3$  catalyst in methanol gives  
 (a)  $C_6H_5CH_2COOH$  (b)  $C_6H_{11}CHOHCOOH$   
 (c)  $C_6H_5CHOHCH_2OH$  (d)  $C_6H_{11}CH_2COOH$
31. Hydrolysis of an ester gives acid *A* and alcohol *B*. *A* reduces Fehling solution and oxidation of *B* gives *A*. The ester is  
 (a) Methyl formate (b) Ethyl formate (c) Methyl acetate (d) Ethyl acetate
32.  $CH_2 = CH - (CH_2)_5COOH \xrightarrow[HBr]{Peroxide} Z$ , where *Z* is  
 (a)  $CH_3 - \underset{\substack{| \\ Br}}{CH} - (CH_2)_5COOH$  (b)  $BrCH_2 - (CH_2)_6COOH$   
 (c)  $CH_2 = CH - (CH_2)_5CH_2OH$  (d)  $C_6H_5COOH$
33.  $HCOOH$  shows all tests of aldehyde because  
 (a) It has one aldehyde group (b) It is member of aldehyde  
 (c) All acids show tests of aldehyde (d) Does not show any test
34. Ethyl acetate reacts with  $CH_3MgBr$  to form  
 (a) Secondary alcohol (b) Tertiary alcohol (c) Primary alcohol and acid (d) Acid
35. What is obtained, when propene is treated with *N*-bromo succinimide  
 (a)  $CH_3 - \underset{\substack{| \\ Br}}{C} = CH_2$  (b)  $BrCH_2 - CH = CH_2$  (c)  $BrCH_2 - CH = CHBr$  (d)  $BrCH_2 - \underset{\substack{| \\ Br}}{CH} - CH_2Br$
36.  $CH_3COOH$  is reacted with  $CH = CH$  in presence of  $Hg^{++}$ , the product is  
 (a)  $\begin{matrix} CH_3 \\ | \\ HC - (OOC - CH_3)_2 \end{matrix}$  (b)  $\begin{matrix} CH_3 \\ | \\ C - (OOC - CH_3)_2 \end{matrix}$  (c)  $\begin{matrix} CH_2(OOCCH_3) \\ | \\ CH_2(OOCCH_3) \end{matrix}$  (d) None of these
37. The product *D* of the reaction  
 $CH_3Cl \xrightarrow{KCN} (A) \xrightarrow{H_2O} B \xrightarrow{NH_3} (C) \xrightarrow{\Delta} (D)$  is  
 (a)  $CH_3CH_2NH_2$  (b)  $CH_3CN$  (c)  $HCONH_2$  (d)  $CH_3CONH_2$
38. Which reduces carboxylic acid directly to primary alcohols  
 (a)  $LiAlH_4$  (b)  $Na + C_2H_5OH$  (c)  $NaBH_4$  (d) All
39. Which one of the following compounds forms a red coloured solution on treatment with neutral  $FeCl_3$  solution  
 (a)  $CH_3COCH_3$  (b)  $CH_3OCH_3$  (c)  $CH_3CH_2OH$  (d)  $CH_3COOH$
40. Consider following compounds  
  
 I II III  
 Which of the above compounds reacts with  $NaHCO_3$  giving  $CO_2$   
 (a) I, II and III (b) I and III (c) II and III (d) I and II
41.  $CH_3CH(OH)CH_2C \equiv CCO_2H \xrightarrow{\text{Reagent I}} \xrightarrow{\text{Reagent II}} \text{Product}$   
  
 Reagents I and II are  
 (a)  $Pt / H_2, H_3O^+$  (b)  $Li / NH_3, H_3O^+$   
 (c)  $H_2 / Lindlar \text{ catalyst}, H_3O^+$  (d)  $H_2O / Na, H_3O^+$

GRAVITY CLASSES

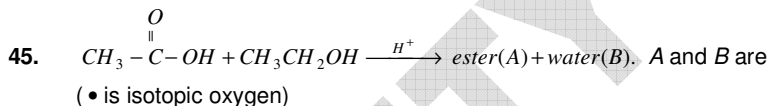


43. End products of the following sequence of reactions are

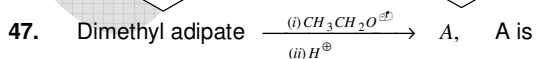
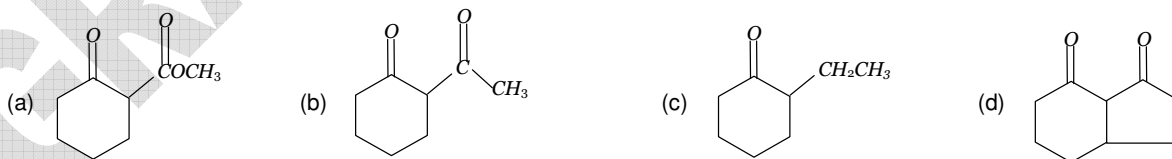
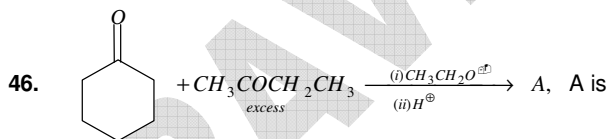


44. Peroxyacetic acid ( $\text{CH}_3\text{CO}_3\text{H}$ ) is a weaker acid than acetic acid ( $\text{CH}_3\text{CO}_2\text{H}$ ) since

- (a) Negative charge in  $\text{CH}_3\overset{\text{O}}{\parallel}{\text{C}}\text{OO}^-$  can't be delocalised into the carbonyl group  
 (b)  $\text{CH}_3$  group in  $\text{CH}_3\text{CO}_3\text{H}$  shows I-effect  
 (c) Both are correct  
 (d) None is correct



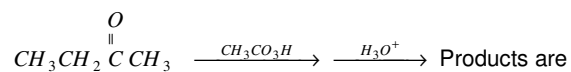
- (a)  $\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{OC}_2\text{H}_5, \text{H}_2\bullet$  (b)  $\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\bullet\text{C}_2\text{H}_5, \text{H}_2\text{O}$   
 (c) Both correct (d) None is correct



GRAVITY CLASSES

48.  $\text{CH}_3\overset{\text{O}}{\parallel}\text{CO}-\overset{\text{H}}{\underset{\text{CH}_3}{\text{C}^*}}-\text{CH}_2\text{CH}_3$  (ester) has chiral carbon (\*). Alkaline hydrolysis gives an acid salt and an alcohol. Select correct statement about alcohol.
- (a) Configuration about chiral carbon is retained  
 (b) Configuration about chiral carbon is inverted  
 (c) Product (alcohol) loses chirality  
 (d) None of the statement is correct

49.  $\text{CH}_3\text{CH}_2\overset{\text{O}}{\parallel}\text{CCH}_3$  undergoes oxidation by  $\text{CH}_3\text{CO}_3\text{H}$  and then hydrolysed



- (a)  $\text{CH}_3\text{CH}_2\overset{\text{O}}{\parallel}\text{COH}$  or  $\text{CH}_3\text{OH}$   
 (b)  $\text{CH}_3\overset{\text{O}}{\parallel}\text{COH}$  and  $\text{CH}_3\text{CH}_2\text{OH}$   
 (c)  $\text{CH}_3\text{CH}_2\text{OCH}_3$  and  $\text{CH}_3\text{OH}$   
 (d)  $\text{CH}_3\text{OCH}_3$  and  $\text{CH}_3\text{OH}$
50. Identify final product in the following  $\text{CH}_3\underset{\text{OH}}{\text{CH}}\text{COOH} \xrightarrow{\Delta}$

