

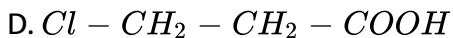
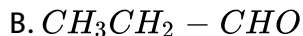
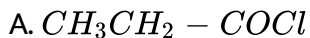
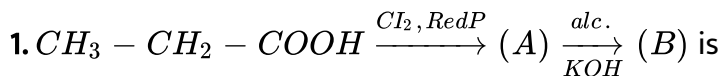


## CHEMISTRY

### BOOKS - SHARAM PUBLICATION

### MONOCARBOXYLIC ACIDS

#### Exercise



Answer:



2. When  $CH_2 = CH - COOH$ , is reduced with  $LiAlH_4$  the compound obtained will be.

- A.  $CH_3 - CH_2 - CHO$
- B.  $CH_3 - CH_2 - COOH$
- C.  $CH_2 = CH - CH_2OH$
- D.  $CH_3 - CH_2 - COOH$

**Answer:**

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3. The general formula of  $C_nH_{2n}O_2$  could be for open chain:

- A. dialdehydes
- B. diketones

C. carboxylic acids

D. diols

**Answer:**

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4. In  $H - COOH$  the two  $C - O$  bonds are found to be equal of length. What is the reason for this?

A. the anion is obtained by the removal of a proton from the acid molecule

B. the electronic orbitals of carbon atom are hybridised

C. the  $C = O$  bond is weaker than  $C - O$  bond

D. the anion  $H - COO^-$  has two resonating structures

**Answer:**

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5. The intermediate formed during the reaction of  $R - CONH_2$  with  $Br_2$  and  $KOH$  are

- A.  $RCONHBr$  and  $RNCO$
- B.  $R - NHCOBr$  and  $RNCO$
- C.  $RNHBr$  and  $RCONHBr$
- D.  $R - CONH_2$

**Answer:**

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6. The  $OH$  group of an alcohol or  $COOH$  group of a carboxylic acid can be replaced by using

- A.  $HOCl$
- B.  $Cl_2$

C.  $HCl$

D.  $PCl_5$

**Answer:**



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7. Among the following acids which has the lowest  $pK_a$  value?

A.  $CH_3COOH$

B.  $H - COOH$

C.  $(CH_3)_2 - CH - COOH$

D.  $CH_3 - CH_2 - COOH$

**Answer:**



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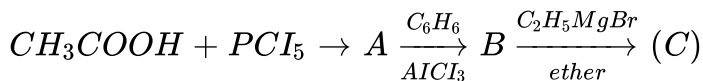
8.  $CH_3COOCH_3 + ExcessPhMgBr \rightarrow Product \xrightarrow{H^+} X$  the product X is

- A. 1, 1-diphenyl ethanol
- B. 1, 1-diphenyl methanol
- C. methyl phenyl ethanol
- D. Methyl phenyl ketone

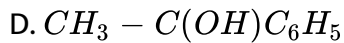
**Answer:**

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9. In a set of reaction acetic and yields a product (c)



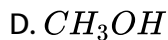
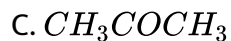
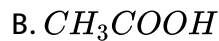
- A.  $CH_3CH(O)(H)C_2H_5$
- B.  $CH_3COC_6H_5$
- C.  $CH_3CH(OH)C_6H_5$



**Answer:**

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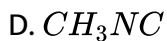
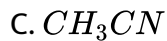
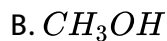
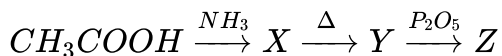
10. Which of the following compounds will form silver mirror with  $[AgNH_3)_2]OH$ ?



**Answer:**

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11. The end product 'z' in the set of reactions is



**Answer:**



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12. The formation of methylamine from acetamide goes in the name of

A. Hoffmann's reaction

B. Hofmann's bromamide reaction

C. Friedel Crafts reaction

D. Hinsberg's reaction

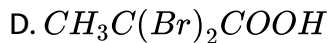
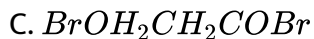
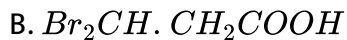


**Answer:**



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13. Propionic acid with  $Br_2$  yields a dibromo product . Its structure will be



**Answer:**



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14. Ethylacetate reacts with sodium/alcohol to form ethanol. The reaction is known as

- A. Wolf-Kishner's reduction
- B. Rosenmund's reaction
- C. Claisen condensation
- D. Clemenson's reduction

**Answer:**

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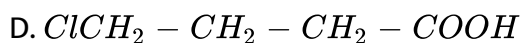
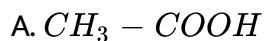
15. Which of the following reacts with acetamide to give  $CH_3NH_2$  ?

- A.  $PCl_5$
- B.  $NaOH + Br_2$
- C. Sodamide
- D. Hot conc.  $H_2SO_4$

**Answer:**

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16. The strongest acid amongst the following compounds is



Answer:



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17. Which reaction is suitable for the preparation of  $\alpha$ -chloro acetic acid?

A. HVZ reaction

B. Nef reaction

C. Stephen's reaction

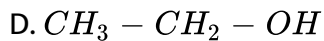
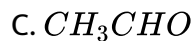
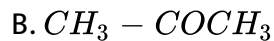
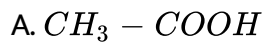
## D. Perkin Condensation

Answer:



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18. The oxidation of which compound is not possible ?



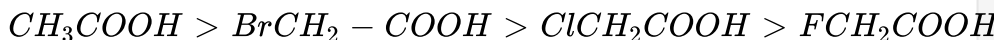
Answer:



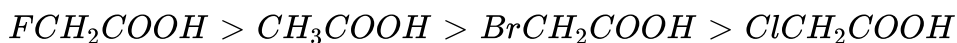
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19. Which of the following represents the correct order of the acidity in the given compounds?

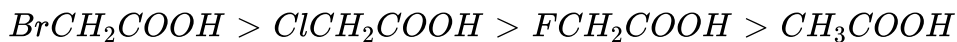
A.



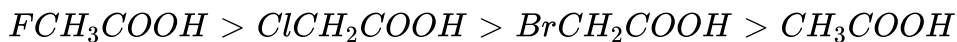
B.



C.



D.



**Answer:**



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20. The acid which contains an aldehyde group is

- A. acetic acid
- B. formic acid
- C. benzoic acid
- D. propionic acid

**Answer:**

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21. The reagent which does not give acid chloride on treating with a carboxylic acid is

- A.  $PCl_5$
- B.  $Cl_2$
- C.  $SOCl_2$
- D.  $PCl_3$

**Answer:**

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22. Colouration of  $Br_2 / CCl_4$  will be discharged by

- A. Cinnamic acid
- B. benzoic acid
- C. O-phthalic acid
- D. acetophenone

**Answer:**

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23. Explain, why acetic acid exists in dimeric form

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24. Which of the following acids will react with Fehling's solution(  
 $CH_3COOH, HCOOH$ )

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25. Which acids gives HVZ reaction?

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26. What happens with when acetic acid is heated with  $P_2O_5$  ?

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27. What are fats and oils?

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28. Give one application of Hoffman's degradation reaction.

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29. What is the chief constituent of Vinegar.

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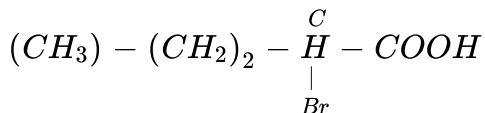
30. How acetic acid is converted to acetamide?

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31. Write down the formula of 3-Bromopropanoic acid .

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32. Write the IUPAC name of the following compound



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33. Write the IUPAC name of the following compound.



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34. Why carboxylic acids are called fatty acids?

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35. During the formation of acid chloride, which bond  $-C - OH$  or  $CO - H$  bond is broken.

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36. What is formed when calcium formate is dry distilled ?

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37. What is formed when  $CH_3CH_2 - COOH$  is heated with  $Cl_2$  in presence of a trace of red phosphorous.

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38. Why formic acid reduces Tollen's reagent like aldehydes?

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39. Which Grignard's reagent on carbonation gives propionic acid?

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40. Write the name and formula of the ester formed in the reaction of acetyl chloride and methyl alcohol.

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41. Write the structural formula of the following compound.

Ethane dioic acid

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42. Write the IUPAC name of the following compound ,  
 $CH_3 - CH(Br)CH_2 - COOH$ .

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43. Write the structural formula of 3-hydroxypentanoic acid.

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44. Which acid is formed on hydrolysis of ethyl acetate ?

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45. Write the IUPAC name of ,  $CH_3 - CH_2 - CH_2 - COOH$

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46. What happens when acetic acid is treated with  $Na_2CO_3$  ?

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47. Which is more acidic acetic acid or formic acid?

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48. What is formed when calcium formate is dry distilled ?

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49. Give the structural formula of Ethyl formate.

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50. What happens when acetamide is heated with  $P_2O_5$

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51. Methyl cyanide on hydrolysis yields \_\_\_\_\_.

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52. Fill in the blanks: Acetic acid +  $PCl_3 \rightarrow \dots\dots\dots + H_3PO_3$



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53. Fill in the blanks:  $H - COOH + NaOH \rightarrow \dots + \dots$



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54. Methyl cyanide on hydrolysis yields \_\_\_\_\_.



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55. Ethyl alcohol is oxidised to \_\_\_\_\_ when warmed with acidified  $K_2Cr_2O_7$  solution .



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56.  $CH_3COCl + C_2H_5OH \rightarrow \dots + \dots$



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57. Fill in the blanks: Amides on reduction with  $LiAlH_4$  gives .....

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58. Write the chemical test to distinguish between formic acid and acetic acid.

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59. What is Tollen's reagent? What happens when it reacts with formic acid?

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60. What happens when ethyl acetate is heated with KOH? Give equation.

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61. How can you obtain acetyl chloride from acetic acid ? Give equation.

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62. Are the following two compounds same or different ? Justify your answer.  $HCOOCH_3$  and  $CH_3COOH$

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63. Identify A ,B, and C and D  $C_2H_5COOH \xrightarrow{NH_3} A \xrightarrow{heat} C_2H_5COOH$

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64. How can a carboxylic acid be converted to an aldehyde in two steps?

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65. What happens when ammonium acetate is heated?

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66. What happens when acetic acid reacts with ethyl alcohol in presence of conc.  $H_2SO_4$ ?

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67. What happens when acetic acid reacts with ammonia?

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68. What is the reaction of formic acid with ammonia cal  $AgNO_3$  solution?

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69. What happens when acetamide is boiled with NaOH solution?

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70. What happens when acetic acid is treated with ammonia followed by heating?

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71. What happens when formic acid is treated with Fehling's solution?

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72. How formic acid can be converted to acetic acid?

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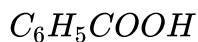
73. What happens when acetic acid is treated with slaked lime and the product is dry distilled?

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74. Formic acid is a stronger acid than acetic acid. Explain

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75. Arrange the following acids in their increasing order of acidity with reasons.



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76. What is Hoffmann hypobromite reaction?

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77. How will you distinguish between benzoic acid and phenol?

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78. How will you distinguish between acetic acid and acetaldehyde?

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79. How will you convert formic acid to acetic acid and viceversa?

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80. How will you convert formic acid to methyl alcohol?



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81. How will you convert acetic acid to isopropyl alcohols?



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