DPP

DAILY PRACTICE PROBLEMS

Class : XIIth **Subject : CHEMISTRY**
Date : **DPP No. : 4**

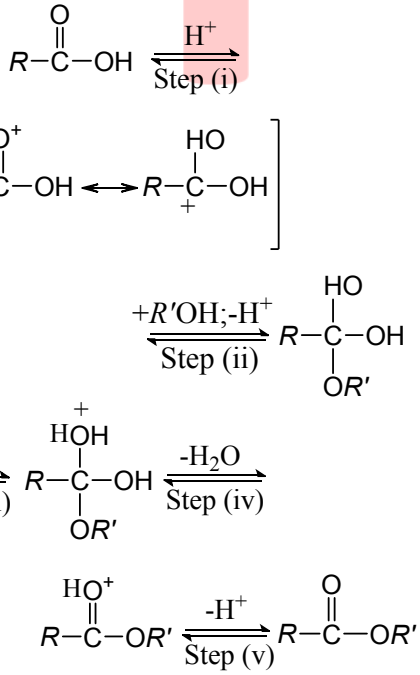
Topic :- Aldehydes, Ketones & Carboxylic Acids

1. Fehling's solution is:
   a) Acidified copper sulphate solution
   b) Ammoniacal cuprous chloride solution
   c) Copper sulphate, Rochelle salt + NaOH
   d) None of the above

2. Stephen's reduction is used to prepare aldehyde from
   a) Alcohol b) Alkyl cyanides c) Alkanones d) Acid chlorides

3. Benzyl alcohol can be prepared from benzaldehyde by
   a) Friedel-Craft's reaction b) Cannizaro's reaction
   c) Kolbe's reaction d) Reimer-Tiemann reaction

4. The mechanism of ester formation in acidic medium is as follows



   The slowest step in the above mechanism is
   a) Step (i) b) Stem (ii) c) Step (iii) d) Step (iv)

5. Ammonolysis of an ester gives:
   a) Amine b) Amide c) Uride d) None of these

6. Acetic anhydride can easily be prepared by:
   a) Distilling a mixture of anhydrous sodium acetate and acetyl chloride
   b) Heating acetic acid
   c) Partial hydrolysis of acetyl chloride
   d) Oxidation of ethanol

7. When one of the following hydrocarbons is burnt in excess of oxygen, the volume of CO_2 evolved is just double to that of hydrocarbon taken. The hydrocarbon is:
   a) CH_4 b) C_2H_6 c) C_3H_8 d) C_3H_6

8. Identify the compound Z. In this reaction sequence
   $CH_3CH_2COOH \xrightarrow{NH_3} X \xrightarrow{Br_2 + KOH} Y \xrightarrow{HNO_2} Z$;
   a) CH_3OH b) $CH_3CH_2NH_2$ c) CH_3CH_2OH d) $CH_3CH_2CH_2OH$

9. Arrange the following carboxylic acids in order of decreasing acidity

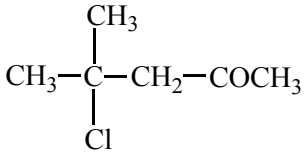
   Oxalic acid **Malonic acid** **Succinic acid**

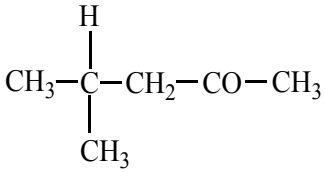
   I II III

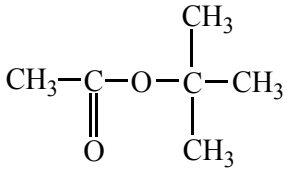
   a) I > II > III b) III > II > I c) I > III > II d) II > III > I

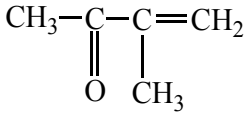
10. Oppenauer oxidation is the reverse process of:
    a) Wolff-Kishner's reduction
    b) Rosenmund's reduction
    c) Clemmensen's reduction
    d) Meerwein-Ponndorf Verley reduction

11. Indicate the organic structure for product expected when 2-methyl propene is heated with acetyl chloride in presence of anhydrous $ZnCl_2$:

    a) 

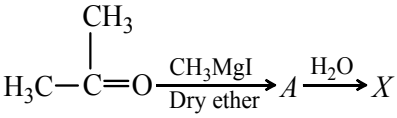
    b) 

c) 

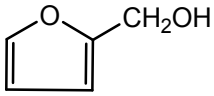
d) 

12. A mixture of benzaldehyde and formaldehyde on heating with aqueous NaOH solution gives
    a) Benzyl alcohol and sodium formate
    b) Sodium benzoate and methyl alcohol
    c) Sodium benzoate and sodium formate
    d) Benzyl alcohol and methyl alcohol

13. Identify *X*;



    a) CH_3OH
    b) CH_3CH_2OH
    c) $CH_3CHOHCH_3$
    d) $CH_3C(OH)(CH_3)_2$

14. $X \xrightarrow{\text{Conc.NaOH}}$ Furoic acid + Furyl alcohol.
    Compound *X* is
    a) 
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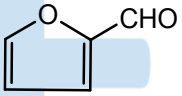
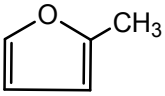
    c) 
    d) 

15. Decarboxylation of which will yield 1,1,2,2-tetra bromoethane:
    a) CH_3COOH
    b) CH_2BrCBr_2COOH
    c) $HCBr_2CBr_2COOH$
    d) $CH_2BrCHBrCOOH$

16. Fehling's solution is used in the detection of:
    a) Ketonic group
    b) Alcoholic group
    c) Aldehydic group
    d) Carboxylic group

17. $RCOOH + N_3H \xrightarrow[\text{conc.}]{H_2SO_4} RNH_2 + CO_2 + N_2$
    The above reaction is called:
    a) HVZ reaction
    b) Hunsdiecker reaction
    c) Schmidt reaction
    d) Decarboxylation reaction

18. Butanol on reaction with one of the following will produce banana odour:
    a) PCl_5
    b) CH_3COCl
    c) CH_3OCH_3
    d) NH_3

19. $\begin{matrix}\text{CHO}\\|\\\text{CHO}\end{matrix} \xrightarrow{OH^-} X$; the product X is :

a) $CH_3OH + CH_3OH$ b) $CH_2OH— COO^-$ c) $CH_3OH + HCOOH$ d) $OOC—COO^-$

20. Some organic compounds are purified by distillation at low pressure because the compounds are:
    a) Low boiling liquids
    b) High boiling liquids
    c) Highly volatile
    d) Dissociated before reaching their boiling points