CHAPTER 13

CARBOXYLIC ACID

MULTIPLE CHOICE QUESTIONS

1. Ninhydrin reacts with amino acid to form product which has colour:

(a) Blue **(b)** Violet

(c) Bluish violet **(d)** Red

2. Slight oxidation of primary alcohol gives:

(a) Ketone **(b)** Organic acid

(c) Aldehyde **(d)** An ester

3. Which of the following is the strongest acid:

(a) HCOOH **(b)** CH_3COOH

(c) $CH_3 - CH_2 - COOH$ **(d)** $Cl - CH_2 - COOH$

4. Which of the following esters shows the flavour of orange:

(a) Benzyl acetate **(b)** Iso-butyl formate

(c) Octyl acetate **(d)** Ethyl butyrate

5. Which acid is used in the manufacture of synthetic fibre:

(a) Formic acid **(b)** Acetic acid

(c) Carbonic acid **(d)** Benzoic acid

6. Some amino acids are most important because they are the final product of hydrolysis of peptide and protein and they are:

(a) α-amino acid **(b)** β-amino acid

(c) γ-amino acid **(d)** All of the above

7. In amino acid proton is transferred from one point to the other point and this dipolar ion is called:

(a) Oxonium ion **(b)** Carbonium ion

(c) Zwitter ion **(d)** Carbanion

8. Which of the following is neutral amino acid:

(a) Glycine **(b)** Histidine

(c) Lysine **(d)** Aspartic acid

9. The amino acid which body can synthesize are called:

(a) Essential **(b)** Non-essential

(c) Acidic **(d)** Basic

10. Amino acids are classified into following types:

(a) Acidic **(b)** Basic

(c) Neutral **(d)** All

11. By convention a peptide having molecular mass upto 10,000 is called:

(a) Peptide **(b)** Polypeptide

(c) Protein **(d)** Dipeptide

12. Acetic acid is manufactured commercially by:

(a) Distillation **(b)** Fermentation

(c) Ozonolysis **(d)** Esterification

13. Which of the following derivative can't be prepared directly from acetic acid:

(a) Acetic anhydride **(b)** Acetyl chloride

(c) Acetamide **(d)** Ethyl ethanoate

14. Which reagent is used to reduce a carboxylic group to an alcohol:

(a) H_2/Ni **(b)** HI/P

(c) $NaBH_4$ **(d)** $LiAlH_4$

15. The solution of which acid is used for seasoning of food:

(a) Formic acid **(b)** Acetic acid

(c) Benzoic acid **(d)** Butanoic acid

16. Which one of the following element is not present in all proteins:

(a) Carbon **(b)** Hydrogen

(c) Nitrogen **(d)** Sulphur

17. **The IUPAC name of** $\begin{matrix} CH_2 - COOH \\ | \\ CH_2 - COOH \end{matrix}$ **is:**

(a) Succinic acid **(b)** Butanoic acid

(c) Dibutanoic acid **(d)** But-1, 4-dioc acid

18. $C_2H_5Br \xrightarrow{KCN} A \xrightarrow{H_2O/H^+} B$

The compound 'B' is:

(a) Acetic acid **(b)** Propanoic acid

(c) Ethyl alcohol **(d)** Propionaldehyde

19. **Which of the following will react with both ethanol and ethanoic acid at room temperature:**

(a) $CaCO_3$ **(b)** CuO

(c) Na-metal **(d)** CH_3OH

20. **Which one of the following is not an amino acid:**

(a) Alanine **(b)** Glycine

(c) Aspartic acid **(d)** Aniline

21. **Which one of the following metal can evolve hydrogen from acetic acid:**

(a) Na **(b)** Fe

(c) Al **(d)** Cu

22. **Which one of the following is not a dicarboxylic acid:**

(a) Malonic acid **(b)** Valeric acid

(c) Maleic acid **(d)** Succinic acid

23. **The compound** $\begin{matrix} HO - CH - COOH \\ | \\ HO - CH - COOH \end{matrix}$ **is commonly called:**

(a) Lactic acid **(b)** Citric acid

(c) Tartaric acid **(d)** Succinic acid

24. **Reverse of esterification is known as:**

(a) Trans esterification **(b)** Dehydration

(c) Hydrolysis **(d)** Decarboxylation

25. The general formula of monocarboxylic acid:

(a) C_nH_nCOOH **(b)** $C_nH_{2n+1}COOH$

(c) $C_nH_{2n}COOH$ **(d)** $C_nH_{2n-2}COOH$

26. The simplest of all amino acid:

(a) Lysine **(b)** Glycine

(c) Alanine **(d)** Aspartic acid

27. Carboxylic acid can be changed to acid chloride by the treatment with:

(a) S_2Cl_2 **(b)** $SOCl_2$

(c) HCl **(d)** HOCl

28. Which product is not formed when acetic acid reacts with $SOCl_2$ (Thionyl chloride):

(a) CH_3Cl **(b)** CH_3COCl

(c) HCl **(d)** SO_2

29. Which one of the following reagent is used to convert acetic acid to ethane?

(a) $LiAlH_4$ **(b)** HI and Red P

(c) P_2O_5 **(d)** $SOCl_2$ and pyridine

30. The weakest carboxylic acid:

(a) HCOOH **(b)** CH_3CH_2COOH

(c) CH_3COOH **(d)** $ClCH_2COOH$

answers

1.	(c)	**2.**	(c)	**3.**	(a)	**4.**	(c)	**5.**	(b)
6.	(a)	**7.**	(c)	**8.**	(a)	**9.**	(b)	**10.**	(d)
11.	(b)	**12.**	(b)	**13.**	(c)	**14.**	(d)	**15.**	(b)
16.	(d)	**17.**	(d)	**18.**	(b)	**19.**	(c)	**20.**	(d)
21.	(a)	**22.**	(b)	**23.**	(c)	**24.**	(c)	**25.**	(b)
26.	(b)	**27.**	(b)	**28.**	(a)	**29.**	(b)	**30.**	(b)