Unit 8: Organic Chemistry

40 MCQs. Correct option in bold. 1 mark each.

1. Organic chemistry is the study of
A. salts B. noble gases
C. carbon-based compounds D. metals

2. A displayed formula shows
A. all the bonds between atoms as individual lines
B. only the molecular mass
C. only carbon atoms
D. only the functional group

3. The general formula of alkanes is
A. C_nH_{2n} **B. C_nH_{2n+2}** C. C_nH_n D. C_nH_{2n-2}

4. The general formula of alkenes is
A. C_nH_n B. C_nH_{2n-2} C. C_nH_{2n+2} **D. C_nH_{2n}**

5. The general formula of alkynes (one triple bond) is
A. C_nH_{2n} **B. C_nH_{2n-2}** C. C_nH_n D. C_nH_{2n+2}

6. Alkenes contain at least one carbon-carbon
A. single bond only B. triple bond
C. double bond D. ionic bond

7. Alkynes contain at least one carbon-carbon
A. double bond B. single bond only
C. ionic bond **D. triple bond**

8. IUPAC stands for the International Union of
A. Pure and Applied Chemistry B. Physical and Atomic Chemistry
C. Polymers and Acids Chemistry D. Pure and Atomic Compounds

9. A functional group is
A. a metal ion
B. a type of reaction
C. a salt
D. an atom or group of atoms that determines the properties of a class of compounds

10. The stem 'meth' means
A. two carbon atoms **B. one carbon atom**
C. four carbon atoms D. three carbon atoms

11. The stem 'eth' means
A. three carbon atoms B. four carbon atoms
C. two carbon atoms D. one carbon atom

12. The stem 'prop' means
A. three carbon atoms B. five carbon atoms
C. two carbon atoms D. four carbon atoms

13. The stem 'but' means
A. six carbon atoms B. three carbon atoms
C. five carbon atoms **D. four carbon atoms**

14. The stem 'pent' means
A. seven carbon atoms **B. five carbon atoms**
C. six carbon atoms D. four carbon atoms

15. The ending '-ane' indicates a(n)
A. alkene B. alcohol **C. alkane** D. alkyne

16. The ending '-ene' indicates a(n)
A. alkene B. alkane
C. carboxylic acid D. alkyne

17. The ending '-ol' indicates a(n)
A. alkane B. ester
C. carboxylic acid **D. alcohol**

18. The ending '-oic acid' indicates a(n)
A. ester **B. carboxylic acid**
C. alkene D. alcohol

19. In but-2-ene, the double bond is between
A. C-2 and C-3 B. C-3 and C-4
C. C-1 and C-2 D. C-1 and C-4

20. Which of the following correctly represents but-2-ene?
A. $CH_3C{\equiv}CCH_3$ B. $CH_3CH_2CH{=}CH_2$
C. $CH_3CH{=}CHCH_3$ D. $CH_2{=}CHCH_2CH_3$

21. The condensed formula of but-2-yne is
A. $CH_3CH_2CH_2CH_3$ B. $CH{\equiv}CCH_2CH_3$
C. $CH_3CH{=}CHCH_3$ **D. $CH_3C{\equiv}CCH_3$**

22. The name of $CH_3CH_2CH{=}CHCH_3$ is
A. pent-2-ene B. pent-1-ene
C. pentane D. pent-3-ene

23. Alcohols contain the functional group
A. –CHO B. –COOR
C. –OH (hydroxyl) D. –COOH

24. In naming alcohols, the 'e' of the alkane is replaced by
A. –oic acid **B. –ol** C. –yl D. –ene

25. The name of CH_3OH is
A. ethanol B. methane C. methanal **D. methanol**

26. The name of CH_3CH_2OH is
A. propanol B. ethane **C. ethanol** D. methanol

27. The compound $CH_3CH(OH)CH_3$ is named
A. propan-2-ol B. propanone
C. propan-1-ol D. propanal

28. Which structural formula represents butan-1-ol?
A. $CH_3CH_2CH{=}CH_2$ **B. $CH_3CH_2CH_2CH_2OH$**
C. $CH_3CH{=}CHCH_3$ D. $CH_3CH_2CH_2COOH$

29. Propan-1-ol and propan-2-ol have
A. the same molecular formula B. different elements
C. identical condensed structural formulas D. different molecular formulas

30. Carboxylic acids contain the functional group
A. –COOR B. –OH **C. –COOH** D. –CHO

31. In naming carboxylic acids, the 'e' of the alkane is replaced by
A. –ate B. –ene C. –ol **D. –oic acid**

32. The IUPAC name of CH_3COOH (acetic acid) is
A. propanoic acid **B. ethanoic acid**
C. methanoic acid D. ethanol

33. The correct IUPAC name for $CH_3CH_2CH_2COOH$ is
A. butanol B. butanal
C. butanoic acid D. propanoic acid

34. The general formula of an ester is
A. ROH B. RCOOH C. RCHO **D. RCOOR'**

35. The reaction of an alcohol with a carboxylic acid to form an ester is called
A. esterification B. combustion
C. polymerisation D. hydrolysis

36. The catalyst used in esterification is a few drops of
A. dilute hydrochloric acid **B. dilute sulphuric acid**
C. water D. sodium hydroxide

37. The ester formed from ethanoic acid and methanol is
A. ethyl ethanoate B. methyl methanoate
C. methyl ethanoate D. ethyl methanoate

38. The ester formed from methanol and propanoic acid is
A. methyl propanoate B. propyl ethanoate
C. propyl methanoate D. ethyl propanoate

39. Which ester can be formed from ethanoic acid and butan-1-ol?
A. $CH_3CH_2CH_2CH_2COOH$ B. $CH_3CH_2CH_2COOCH_3$
C. $CH_3CH_2COOCH_3$ **D. $CH_3COOCH_2CH_2CH_2CH_3$**

40. Which name is incorrect for its formula?
A. Butane: $CH_3CH_2CH_2CH_3$ **B. But-2-ene: $CH_3CH_2CH{=}CH_2$**
C. But-1-ene: $CH_2{=}CHCH_2CH_3$ D. Butan-2-ol: $CH_3CH(OH)CH_2CH_3$