Structural and stereo isomerism

21. Which of the following pairs is an example of position isomerism

(a) $CH_3-CH_2-CH_2-CH_3$ and $CH_3-\underset{\displaystyle CH_3}{\overset{|}{CH}}-CH_3$

(b) $CH_3-CH_2-CH=CH_2$ and $CH_3-CH=CH-CH_3$

(c) CH_3-CH_2OH and CH_3-O-CH_3

(d) $CH_3-\underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}-CH_3$ and $CH_3-CH_2-CH_2-CH_2-CH_3$

22. Geometrical isomerism is shown by

(a) 2-butene (b) 2-butyne

(c) 2-butanol (d) Butanal

23. An organic compound exhibits optical isomerism when

(a) Four groups linked to carbon atom are different

(b) Three groups linked to carbon atom are different

(c) Two groups linked to carbon atom are different

(d) All the groups linked to carbon atom are same

24. Which one of the following exhibits geometrical isomerism

(a) $\begin{matrix} H \\ H_3C \end{matrix}\!\!>\!C=C\!<\!\!\begin{matrix} H \\ CH_3 \end{matrix}$

(b) $\begin{matrix} C_2H \\ H \end{matrix}\!\!>\!C=C\!<\!\!\begin{matrix} H \\ H \end{matrix}$

(c) $\begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!C=C\!<\!\!\begin{matrix} H \\ H \end{matrix}$

(d) $H-\underset{\displaystyle H}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}}-\underset{\displaystyle H}{\overset{|}{C}}=C\!<\!\!\begin{matrix} H \\ H \end{matrix}$

25. Maximum number of isomers of alkene C_4H_8 are

(a) 2 (b) 3

(c) 4 (d) 6

26. Rotation of plane polarised light is measured by

(a) Manometer

(b) Polarimeter

(c) Viscometer

(d) Refractometer

27. An alkane forms isomers if the number of least carbon atom is

(a) 1 (b) 2

(c) 3 (d) 4

28. Which is not found in alkenes

(a) Chain isomerism

(b) Geometrical isomerism

(c) Metamerism
(d) Position isomerism

29. How many isomers of $C_5H_{11}OH$ will be primary alcohols
(a) 2 (b) 3
(c) 4 (d) 5

30. The compound $C_4H_{10}O$ can show
(a) Metamerism
(b) Functional isomerism
(c) Positional isomerism
(d) All types

31. The number of possible alcoholic isomers for $C_4H_{10}O$ are
(a) 4 (b) 2
(c) 3 (d) 5

32. How many isomers are possible for C_4H_8O
(a) 3 (b) 4
(c) 5 (d) 6

33. Which of the following can exhibit *cis-trans* isomerism
(a) $HC \equiv CH$
(b) $ClCH = CHCl$
(c) $CH_3.CHCl.COOH$
(d) $ClCH_2 - CH_2Cl$

34. The number of geometrical isomers in case of a compound with the structure $CH_3 - CH = CH - CH = CH - C_2H_5$ is
(a) 4 (b) 3
(c) 2 (d) 5

35. The property by virtue of which a compound can turn the plane polarised light is known as
(a) Photolysis
(b) Phosphorescence
(c) Optical activity
(d) Polarization

36. Meso-tartaric acid is optically inactive due to the presence of
(a) Molecular symmetry
(b) Molecular asymmetry
(c) External compensation
(d) Two asymmetric C-atoms

37. Which of the following compounds exhibits optical isomerism
(a) CH_3CH_2COOH
(b) $CH_3CHOHCOOH$
(c) $CH_3CH_2CH_2OH$
(d) $CH_3CHOHCH_3$

38. The maximum number of stereoisomers possible for 2-hydroxy-2-methyl butanoic acid is
(a) 1 (b) 2
(c) 3 (d) 4

39. Which one of the following pairs represents the stereoisomerism
(a) Geometrical isomerism, position isomerism
(b) Geometrical isomerism, conformational isomerism
(c) Optical isomerism, geometrical isomerism
(d) Optical isomerism, metamerism

40. Diethyl ether is not associated with which one of these isomers
(a) Butanoic acid
(b) Methyl propionate
(c) Steroisomerism
(d) None of these