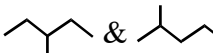
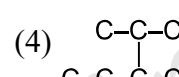
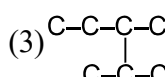
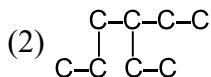
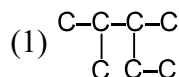


EXERCISE- I

Q.1  are called as –

- (1) Position isomers (2) Chain isomers (3) Function isomers (4) Ring chain isomers

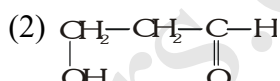
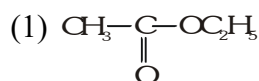
Q.2 Out of following carbon chains which one is different from other three chains –



Q.3  are –

- (1) Tautomers (2) Functional (3) Position (4) All the above

Q.4 Which of the following compound is isomeric with propanoic acid :-



Q.5 CH_3CONH_2 & HCONHCH_3 are called –

- (1) Position (2) Chain (3) Tautomers (4) Functional

Q.6 Diethyl ether and methylpropyl ether are :

- (1) metamers (2) chain isomers (3) position isomers (4) geometrical isomers

Q.7 Which of the following pairs exhibits chain isomerism ?

- (1) a-butylene and b-butylene (2) a-butylene and isobutylene
(3) isobutylene and cyclobutene (4) cyclobutane and isobutylene

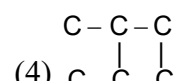
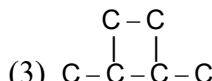
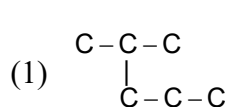
Q.8 Meso-tartaric acid $\left[\begin{array}{c} \text{COOH} \\ | \\ \text{H} - \text{C} - \text{C} - \text{OH} \\ | \\ \text{H} - \text{C} - \text{C} - \text{OH} \\ | \\ \text{COOH} \end{array} \right]$ is optically inactive due to the presence of :-

- (1) Molecular symmetry (2) Molecular asymmetry
(3) External compensation (4) Two asymmetric carbon atoms

Q.9 Which pair of the following exhibits different type of isomerism than the other three ?

- (1) Methyl cyanide and methyl isocyanide (2) Methyl nitrite and nitromethane
(3) Ethyl methanoate and methyl ethanoate (4) 2-Butyne and 1, 3-butadiene

Q.10 The name of which carbon chain starts from 'iso' in the following chains –

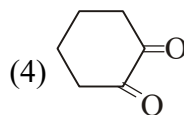
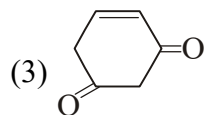
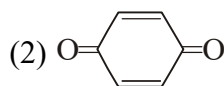
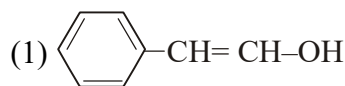


- Q.11 Which pair of the following is not an example of position isomerism :
- (1) Ethylene chloride and ethylidene chloride (2) n-Propyl alcohol and isopropyl alcohol
 (3) n-Pentane and isopentane (4) n-butyl alcohol and sec butyl alcohol.
- Q.12 Which is optically active molecule :-
- (1) $\text{C}_6\text{H}_5-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$ (2) $\text{CH}_3-\underset{\text{OH}}{\text{CH}}-\text{C}_2\text{H}_5$ (3) $\text{C}_6\text{H}_5-\underset{\text{H}}{\text{CH}}-\text{OH}$ (4) $\text{C}_6\text{H}_5-\underset{\text{CH}_3}{\text{CH}}-\text{CH}_3$
- Q.13 Which of the following pairs of compounds are not metamers ?
- (1) $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_3$ and $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$
 (2) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ and $\text{CH}_3\text{OCH}(\text{CH}_3)_2$
 (3) $\text{CH}_3\text{NHCH}_2\text{CH}_2\text{CH}_3$ and $\text{CH}_3\text{CH}_2\text{NHCH}_2\text{CH}_3$
 (4) $\text{CH}_3\text{NHCH}_2\text{CH}_2\text{CH}_3$ and $\text{CH}_3\text{NHCH}(\text{CH}_3)_2$
- Q.14 Which pair of the followings is the example of both metamerism and position isomerism ?
- (1) Diethylamine and methylisopropylamine (2) Propyl ethanoate and isopropyl ethanoate
 (3) Ethoxyethane and 2-methoxypropane (4) Diethylketone and methyl n-propyl ketone.
- Q.15 The following are metamers of ethyl acetate except :
- (1) methyl propanoate (2) methyl acetate
 (3) isopropyl formate (4) propyl formate
- Q.16 Which conformation of butane will have the minimum energy :-
- (1) Gauche (2) Anti staggered (3) Eclipsed (4) None
- Q.17 The following classes of organic compounds exhibit metamerism except :
- (1) secondary amines (2) esters (3) ethers (4) alkanols
- Q.18 In keto-enol tautomerism of dicarbonyl compounds, the enol form is preferred in contrast to the keto-form, this is due to
- (1) Presence of carbonyl group on each side of $-\text{CH}_2-$
 (2) Resonance stabilization of enol form
 (3) Presence of methylene group
 (4) Rapid chemical exchange.
- Q.19 The type of isomerism shown by nitromethane is-
- (1) Metamerism (2) Optical isomerism (3) Tautomerism (4) Position isomerism
- Q.20 The following two compounds are
- $\begin{array}{c} \text{Cl} \\ | \\ \text{H}-\text{C}-\text{F} \\ | \\ \text{Br} \end{array}$ and $\begin{array}{c} \text{Br} \\ | \\ \text{F}-\text{C}-\text{Cl} \\ | \\ \text{H} \end{array}$
- (1) Enantiomers (2) Diastereomers (3) Identical (4) Epimers

Q.21 The phenomenon involving the migration of a proton to give two structural isomers in equilibrium with each other is known as –

- (1) Metamerism (2) Tautomerism (3) Cis trans isomerism (4) Stereo isomerism

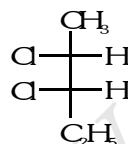
Q.22 Tautomerism is not exhibited by -



Q.23 Which of the following does not show tautomerism ?

- (1) $C_6H_5COCH_3$ (2) CH_3CHO (3) CH_3COCH_3 (4) $C_6H_5COC(CH_3)_3$

Q.24 The absolute configuration of the compound is :



- (1) 2S, 3R (2) 2S, 3S (3) 2R, 3S (4) 2R, 3R

Q.25 Which of the following can exhibit tautomerism ?

- (1) $C_6H_5CH_2 - CO - CH_2CH_2CHO$ (2) $C_6H_5 - CO - CH_2 - CO - CH_2 - CH_2CH_3$
 (3) $C_6H_5 - CO - CO - CH_2CH_2CH_3$ (4) All of the above.

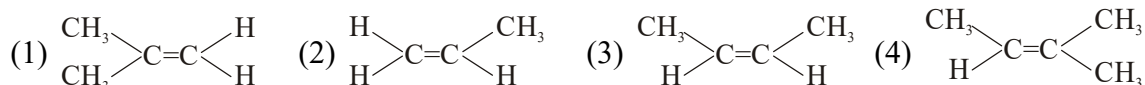
Q.26 Geometrical isomerism is due to -

- (1) The restricted rotation about a double bond
 (2) The presence of keto group
 (3) The presence of $CH(OH)$ group
 (4) The presence of an asymmetric carbon

Q.27 Which of the following will show geometrical isomerism ?

- (1) 1-Butene (2) 1,2-Dibromoethene
 (3) Propene (4) Isobutylene

Q.28 Which can show 'Geometrical isomerism' :-



Q.29 The correct structure of trans-2-hexenal is -



- Q.30 cis-trans isomers can be differentiated by:
 (1) Melting point (2) Dipole moment (3) Boiling point (4) All of these
- Q.31 Compounds containing which of the following functional groups can exhibit geometrical isomerism ?
 (1) $>C=C<$ (2) $>C=N-$ (3) $-N=N-$ (4) All the three above
- Q.32 $\text{CH}_3-\text{C}-\text{Cl}$ is -
 $\begin{array}{c} \parallel \\ \text{Cl}-\text{C}-\text{Br} \end{array}$
 (1) Trans (2) Z (3) Both correct (4) None is correct
- Q.33 The total number of configurational isomers of the given compound are :-
 $\text{CH}_3-\text{CH}=\text{CHCHOHCHOHCH}_3$
 (1) 2 (2) 4 (3) 6 (4) 8
- Q.34 Which among the following compounds will show geometrical isomerism :
 (1) $\text{CH}_3-\text{CH}=\text{CH}_2$ (2) $\text{CH}_3-\underset{\text{CH}_3}{\text{C}}=\text{CH}_2$ (3) $\text{CH}_3-\underset{\text{CH}_3}{\text{C}}=\text{CHD}$ (4) $\text{CH}_3-\text{CH}=\text{CHD}$
- Q.35 The 'E-isomer is -
 (1) $\begin{array}{c} \text{F} \quad \quad \text{H} \\ \diagdown \quad \diagup \\ \text{C}=\text{C} \\ \diagup \quad \diagdown \\ \text{Cl} \quad \quad \text{Br} \end{array}$ (2) $\begin{array}{c} \text{H}_3\text{C} \quad \quad \text{CH}_3 \\ \diagdown \quad \diagup \\ \text{C}=\text{C} \\ \diagup \quad \diagdown \\ \text{H} \quad \quad \text{H} \end{array}$
 (3) $\begin{array}{c} \text{CH}_3 \quad \quad \text{C}_2\text{H}_5 \\ \diagdown \quad \diagup \\ \text{C}=\text{C} \\ \diagup \quad \diagdown \\ \text{H} \quad \quad \text{CH}(\text{CH}_3)_2 \end{array}$ (4) None of the above
- Q.36 Which of the following compounds will show geometrical isomerism ?
 (1) 1 - Butene (2) Propene (3) 1 -Phenylpropene (4) 2-Methyl -2 - butene

ANSWER KEY

Q.1	1	Q.2	2	Q.3	2	Q.4	2	Q.5	4	Q.6	1	Q.7	2
Q.8	1	Q.9	3	Q.10	1	Q.11	3	Q.12	2	Q.13	4	Q.14	4
Q.15	2	Q.16	2	Q.17	4	Q.18	2	Q.19	3	Q.20	1	Q.21	2
Q.22	2	Q.23	4	Q.24	3	Q.25	4	Q.26	1	Q.27	2	Q.28	3
Q.29	2	Q.30	4	Q.31	4	Q.32	3	Q.33	4	Q.34	4	Q.35	3
Q.36	3												