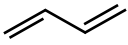

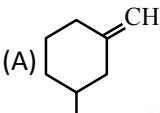
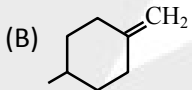
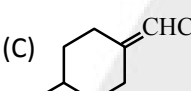
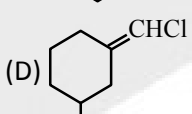
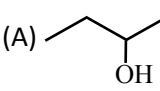
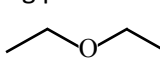
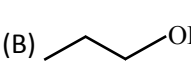
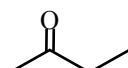
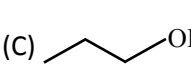
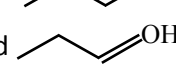
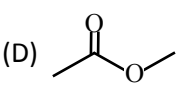
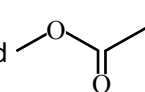


**JEE CHEMISTRY**

*Topic: Isomerism*

- Q.1**  &  show isomerism –
- (A) Chain                      (B) Position  
 (C) Functional                (D) None of these
- Q.2** Which of the following does not show functional group isomerism –
- (A) C<sub>2</sub>H<sub>6</sub>O                      (B) C<sub>3</sub>H<sub>8</sub>O  
 (C) C<sub>4</sub>H<sub>10</sub>                        (D) C<sub>4</sub>H<sub>10</sub>O
- Q.3** Ethylethanoate and α – methyl propionic acid are –
- (A) Chain isomers  
 (B) Functional isomers  
 (C) Geometrical isomers  
 (D) Optical isomers
- Q.4** CH<sub>3</sub> - CH<sub>2</sub> - CHO & CH<sub>2</sub> = CH - CH<sub>2</sub>OH are –
- (A) Functional                (B) Tautomers  
 (C) Position                    (D) Metameres
- Q.5** Which of the following compounds will exhibit geometrical isomerism –
- (A) 1-Phenyl-2-butene  
 (B) 3-Phenyl-1-butene  
 (C) 2-Phenyl-1-butene  
 (D) 1,1-Diphenyl-1-propene
- Q.6** The number of isomers possible for the compound with the structure –  
 CH<sub>3</sub>CH = CH – CH = CH – CH<sub>2</sub>CHOHCH<sub>3</sub> is –
- (A) 2      (B) 4      (C) 6      (D) 8

- Q.7** Which of the following will show geometrical isomerism –
- (A)  $\text{CH}_3\text{CH} = \text{CH}_2$
- (B)  $\text{CH}_3 - \overset{\text{CH}_3}{\underset{|}{\text{C}}} = \overset{\text{Br}}{\underset{|}{\text{C}}} - \text{CH}_2\text{CH}_3$
- (C)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH} = \text{CHCH}_3$
- (D)  $\text{CH}_2 = \text{CH} - \text{CH}_2 - \text{CH}_3$
- Q.8** How many optically active forms are possible for a compound of rational formula -  $\text{CH}_2\text{OH} \cdot \text{CHOH} \cdot \text{CHOH} \cdot \text{CHOH} \cdot \text{CHO}$
- (A) 2      (B) 3      (C) 4      (D) 8
- Q.9** Which of the following compounds can exist as geometrical isomers –
- (A)  $\text{CH}_2\text{Cl}_2$       (B)  $\text{CH}_2\text{Cl} - \text{CH}_2\text{Cl}$
- (C)  $\text{CHBr} = \text{CHCl}$  (D)  $\text{CH}_2\text{Cl} - \text{CH}_2\text{Br}$
- Q.10** Which of the following has Z-configuration -
- (A)  $\begin{array}{c} \text{H}_3\text{C} \\ \diagdown \\ \text{C} = \text{C} \\ \diagup \\ \text{H} \end{array} \begin{array}{c} \text{C}_2\text{H}_5 \\ \diagdown \\ \text{C} \\ \diagup \\ \text{H} \end{array}$
- (B)  $\begin{array}{c} \text{Br} \\ \diagdown \\ \text{C} = \text{C} \\ \diagup \\ \text{HOCH}_2 \end{array} \begin{array}{c} \text{CH}(\text{CH}_3)_2 \\ \diagdown \\ \text{C} \\ \diagup \\ \text{CH}_2 - \text{CH}_3 \end{array}$
- (C)  $\begin{array}{c} \text{Cl} \\ \diagdown \\ \text{C} = \text{C} \\ \diagup \\ \text{Br} \end{array} \begin{array}{c} \text{H} \\ \diagdown \\ \text{C} \\ \diagup \\ \text{D} \end{array}$
- (D) All the above
- Q.11** The total number of structural isomers possible for hydrocarbon  $\text{C}_4\text{H}_8$  is –
- (A) 3      (B) 4      (C) 5      (D) 6
- Q.12** The number of isomers of nitro phenol is –
- (A) No isomerism (only one compound is possible.)
- (B) Two isomers
- (C) Three isomers
- (D) Four isomers
- Q.13** In trans 1,2– dichloroethene –
- (A) There are 6 sigma bonds
- (B) The two H atoms are adjacent to each other
- (C) There is free rotation about the C – C bond
- (D) All the atoms lie in the same plane

- Q.14** Which of the following pairs of compounds are chain isomers -  
 (A) n-Propyl alcohol and isopropyl alcohol  
 (B) isobutyl alcohol and t-butyl alcohol  
 (C) s-Butyl alcohol and t-butyl alcohol  
 (D) n-Butyl alcohol and s-butyl alcohol
- Q.15** Which of the following pairs of compounds are position isomers -  
 (A) isobutyl alcohol and s-butyl alcohol  
 (B) isobutyl alcohol and t-butyl alcohol  
 (C) isopentyl alcohol and neopentyl alcohol  
 (D) ethyl alcohol and ethylene glycol
- Q.16** Which of the following pairs of compounds are not isomers -  
 (A) Propyne and cyclopropene  
 (B) Propyne and propadiene  
 (C) Propene and cyclopropene  
 (D) 1-Propanol and methoxyethane
- Q.17** Which of the following is not an isomer of allyl alcohol -  
 (A) Acetone                      (B) 1-Propanol  
 (C) 2-Methyloxirane          (D) Cyclopropanol
- Q.18** The total number of cyclic compounds (neglecting stereoisomers) with the molecular formula  $C_5H_{10}$  is -  
 (A) 4      (B) 5      (C) 6      (D) 7
- Q.19** Geometrical isomerism shows -
- (A)  (B) 
- (C)  (D) 
- Q.20** Which of the following pairs of compounds are functional isomers -
- (A)  and 
- (B)  and 
- (C)  and 
- (D)  and 

**Q.21** Which of the following compounds does not have geometrical isomers -

- (A) 2-Pentenoic acid      (B) 2-Butenoic acid  
(C) 3-Pentenoic acid      (D) 3-Butenoic acid

**Q.22** Among the following compounds, the one which does not show geometrical isomerism is -

- (A)  $C_6H_5N=NC_6H_5$       (B)  $C_6H_5CH=CHC_6H_5$   
(C)  $C_6H_5-\underset{\text{CH}_3}{\text{C}}=N-OH$       (D)  $C_6H_5-\underset{\text{C}_6H_5}{\text{C}}=N-CH_3$

**Q.23** Which of the following compounds has no geometrical isomer -

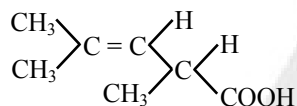
- (A) 1-Phenylpropene  
(B) 1, 2-Diphenylethene  
(C) 1, 2-Diphenylpropene  
(D) 1,1-Diphenylpropene

**Q.24** The number of geometrical isomers in the following compound,

$CH_3 - CH = CH - CH = CH - C_2H_5$  is -

- (A) 4      (B) 3      (C) 2      (D) 5

**Q.25** The following compound can exhibit -



- (A) Geometrical isomerism  
(B) Geometrical and optical isomerisms  
(C) Optical isomerism  
(D) Tautomerism

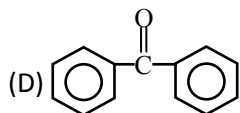
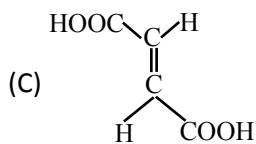
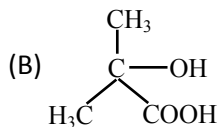
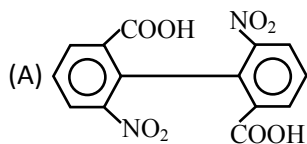
**Q.26** Structural isomers possible for  $C_4H_8Br_2$  are -

- (A) 9      (B) 8      (C) 7      (D) 6

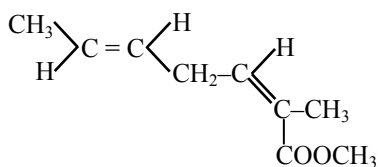
**Q.27** False statement is -

- (A) Angle of rotation increases with increase in number of asymmetric carbon atoms  
(B) Cis - isomer of a compound is more stable than trans form  
(C) Fumaric acid on heating produces fumaric anhydride  
(D) All of them

**Q.28** Which compound would exhibit optical isomers—

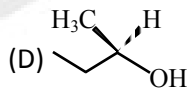
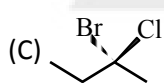
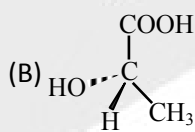
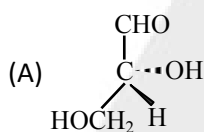


**Q.29** The correct stereochemical name of —



- (A) Methyl 2-methylhepta (2E, 5E) dienoate  
 (B) Methyl 2-methylhepta (2Z, 5Z) dienoate  
 (C) Methyl 2-methylhepta (2E, 5Z) dienoate  
 (D) Methyl 2-methylhepta (2Z, 5E) dienoate

**Q.30** Which of the following structures has the S-configuration at the chiral centre ?



## ANSWER KEY

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<b>Que.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Ans.</b>	C	C	B	A	A	D	C	D	C	D
<b>Que.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Ans.</b>	C	C	D	C	B	C	B	B	D	A
<b>Que.</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>Ans.</b>	D	D	D	A	C	A	D	A	D	B

