

NEET : CHAPTER WISE TEST-10

SUBJECT :- CHEMISTRY

DATE.....

CLASS :- 11th

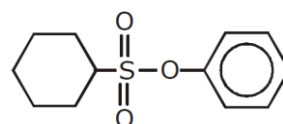
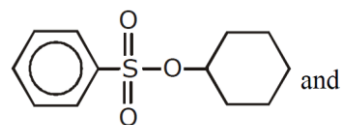
NAME.....

CHAPTER :- ISOMERISM

SECTION.....

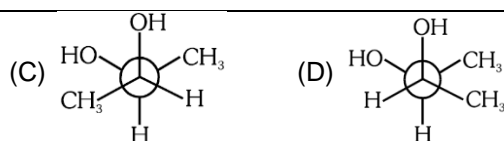
(SECTION-A)

- Which of the following are isomers?
(A) Ethanol and ethoxy ethane
(B) Methanol and methoxy methane
(C) Propanoic acid and ethyl acetate
(D) Propionaldehyde and acetone
- 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
- Which one of the following pairs are called position isomers?
(A) $\text{CH}_2(\text{OH})\text{CH}_2\text{COOH}$ & $\text{CH}_3\text{CH}(\text{OH})\text{COOH}$
(B) $\text{C}_2\text{H}_5\text{OH}$ & CH_3OH
(C) $(\text{C}_2\text{H}_5)_2\text{CO}$ & $\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}_2\text{CH}_3$
(D) All the above
- Possible number of disubstituted benzene isomers is –
(A) 1 (B) 2 (C) 3 (D) 4
- The total number of cyclic compounds (neglecting stereoisomers) with the molecular formula C_5H_{10} is -
(A) 4 (B) 5 (C) 6 (D) 7
- The number of ether metamers represented by the formula $\text{C}_4\text{H}_{10}\text{O}$ is -
(A) 4 (B) 3 (C) 2 (D) 1
- How many primary amines are possible for the formula $\text{C}_4\text{H}_{11}\text{N}$?
(A) 2 (B) 3 (C) 4 (D) 5
- Given compound show which type of isomerism ?

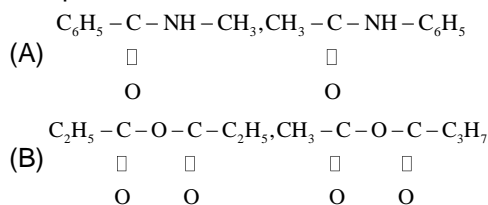


- and
- Chain isomerism
 - Positional isomerism
 - Metamerism
 - Functional group isomerism
- Metamerism is shown by -
(A) Diethyl ether and n-propyl methyl ether
(B) Ethyl alcohol and diethyl ether
(C) Acetone and propionaldehyde
(D) Propionic acid and acetic acid
 - Which of the following compounds will show geometrical isomerism?
(A) 2-Butene (B) Propene
(C) 1-Phenylpropene (D) Both A & C
 - Compounds containing which of the following functional groups can exhibit geometrical isomerism?
(A) $> \text{C} = \text{C} <$
(B) $> \text{C} = \text{N} -$
(C) $-\text{N} = \text{N} -$
(D) All the above three
 - Which of the following will show geometrical isomerism ?
(A) 1-Butene
(B) 1,2-Dibromoethene
(C) Propene
(D) Isobutylene
 - Maleic acid and fumaric acid are -
(A) Position isomers
(B) Functional isomers
(C) Geometrical isomers

- (D) optical isomers
14. 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
15. Which of the following compounds has no geometrical isomer?
(A) 1-Phenylpropene
(B) 1, 2-Diphenylethene
(C) 1, 2-Diphenylpropene
(D) 1,1-Diphenylpropene
16. Which of the following show geometrical isomerism?
(A) 1- Pentene
(B) 1,2-Dimethylcyclo butane
(C) 1,1 Dichloroethene
(D) 1,4-Butanedioic acid
17. 2-Butene exhibits geometrical isomerism due to -
(A) Rotation about the double bond
(B) Rotation about C₃-C₄ bond
(C) Restricted rotation about the double bond
(D) Rotation about C₁-C₂ bond
18. The number of geometrical isomers in the following compound,
CH₃ - CH = CH - CH = CH - C₂H₅ is -
(A) 4 (B) 3 (C) 2 (D) 5
19. Which of the following statements is not correct ?
(A) Molecules that are superimposable on their mirror images are chiral
(B) Molecules that are not superimposable on their mirror images are chiral
(C) A compound whose molecules are chiral can exist as enantiomers
(D) A compound whose molecules are achiral can not exist as enantiomers
20. An organic compound will show optical isomerism if
(A) Four groups attached to C atom are different
(B) Three groups attached to C atom are different
(C) Two groups attached to C atom are different
(D) All the groups attached to C atom are same
21. The compound having asymmetric carbon atom is
(A) CH₃CHOHCH₃
(B) (CH₃)₂C(C₂H₅)₂
(C) C₂H₅CHClCH₃
(D) C₂H₅CH(CH₃)CH₂CH₃
22. The terms stereoisomers, enantiomers and diastereomers will refer
(A) Only to configurational isomers including geometric isomers
(B) Only to conformational isomers
(C) To both configurational as well as conformational isomers
(D) To neither configurational as well as conformational isomers
23. Optically active isomers but not mirror images are called
(A) Enantiomers (B) Mesomers
(C) Tautomers (D) Diastereomers
24. If optical rotation is produced by
- $$\begin{array}{c} \text{CH}_3 \\ | \\ \text{H} - \text{C} - \text{Cl} \\ | \\ \text{Cl} - \text{C} - \text{H} \\ | \\ \text{CH}_3 \end{array}$$
- is + 36° then that produced by
- $$\begin{array}{c} \text{CH}_3 \\ | \\ \text{H} - \text{C} - \text{Cl} \\ | \\ \text{H} - \text{C} - \text{Cl} \\ | \\ \text{CH}_3 \end{array}$$
- is -
- (A) - 36° (B) 0°
(C) + 36° (D) Unpredictable



35. The pair of metamers is :-



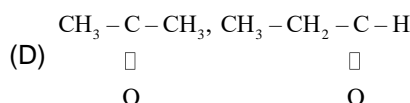
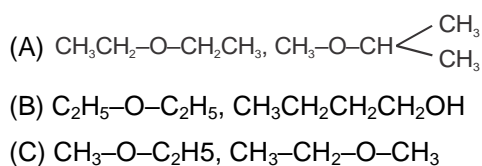
- (C) Both the above
(D) None of the above

(SECTION-B)

36. The minimum number of carbon atoms in ketone to show metamerism :-

- (A) 3 (B) 4 (C) 5 (D) 6

37. Which are metamers ?



38. Meso-tartaric acid is

optically inactive due to the presence of :-

- (A) Molecular symmetry
(B) Molecular asymmetry
(C) External compensation
(D) Two asymmetric carbon atoms

39. **Assertion** : Trihydroxyglutaric acid ($\text{HCOO} - \text{CHOH} - \text{CHOH} - \text{CHOH} - \text{COOH}$) exists in four stereoisomeric forms, two of which are optically active while the other two are mesoforms.

Reason : It contains two asymmetric and one pseudo-asymmetric carbon atom.

(A) If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.

(B) If both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.

(C) If Assertion is True but the Reason is False.

(D) If both Assertion & Reasons are false.

40. **Assertion** : All the hydrogen atoms in $\text{CH}_2=\text{C}=\text{CH}_2$ lie in one plane.

Reason : All the carbon atoms in it are sp^2 hybridized.

(A) If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.

(B) If both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.

(C) If Assertion is True but the Reason is False.

(D) If both Assertion & Reasons are false.

41. **Assertion** : The boiling point of cis-1,2-Dichloro ethene is higher than that of corresponding trans isomer.

Reason : cis-1,2-Dichloro ethene has higher dipole moment as compared to that of the trans isomer.

(A) If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.

(B) If both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.

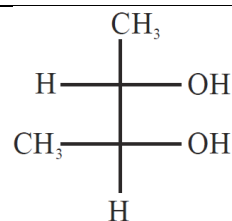
(C) If Assertion is True but the Reason is False.

(D) If both Assertion & Reasons are false.

42. **Assertion** : $\text{CH}_3 - \text{CH}_2 - \text{Br}$ and $\text{CH}_3 - \text{CH}_2 - \text{I}$ are functional isomers.

Reason : The above compounds are homologues.

- (A) If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.
 (B) If both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.
 (C) If Assertion is True but the Reason is False.
 (D) If both Assertion & Reasons are false.
43. **Assertion** : Neopentyl bromide and 2-Bromo-2- methyl butane are enantiomers.
Reason : Both have same molecular formula as well as structural formula.
 (A) If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.
 (B) If both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.
 (C) If Assertion is True but the Reason is False.
 (D) If both Assertion & Reasons are false.
44. Functional isomerism is shown by
 (A) o-Nitrophenol and p-Nitrophenol
 (B) Dimethyl ether and ethanol
 (C) 2-Pentenoic acid and 3-Pentenoic acid
 (D) Acetaldehyde and acetone
45. Which of the following ether show metamerism ?
 (A) $\begin{array}{c} \text{O} \\ | \\ \square \end{array}$ (B) $\text{C}_2\text{H}_5\text{—O—C}_2\text{H}_5$
 $\text{CH}_3\text{—C—C}_3\text{H}_7$
 (C) $\text{CH}_3\text{—O—CH}_3$ (D) $\text{CH}_3\text{—O—C}_2\text{H}_5$
46. Which of the following compounds is not chiral?
 (A) $\text{DCH}_2\text{CH}_2\text{CH}_2\text{Cl}$
 (B) $\text{CH}_3\text{CH}_2\text{CHDCI}$
 (C) $\text{CH}_3\text{CHDCH}_2\text{Cl}$
 (D) $\text{CH}_3\text{CHClCH}_2\text{D}$
47. Correct configuration of the following is :-



- (A) 2S, 3S (B) 2S, 3R
 (C) 2R, 3S (D) 2R, 3R

48. **Assertion** : diastereoisomers have different physical properties.
Reason : They are non-superimposable mirror images.
 (A) Both A and R are correct and the R is the correct explanation of the A
 (B) Both A and R are correct but R is not the correct explanation of the A
 (C) A is correct but R is incorrect
 (D) Both A and R are incorrect
49. Among the following the most stable compound is
 (A) cis-1,2-Cyclohexanediol
 (B) trans-1,2-Cyclohexanediol
 (C) cis-1,3-Cyclohexanediol
 (D) trans-1,3-Cyclohexanediol
50. With respect to the conformers of ethane, which of the following statements is true?
 (A) Bond angle remains same but bond length changes
 (B) Bond angle changes but bond length remains same
 (C) Both bond angle and bond length changes
 (D) Both bond angles and bond length remains same