

NEET ANSWER KEY & SOLUTIONS

SUBJECT :- CHEMISTRY

CLASS :- 11th

PAPER CODE :- CWT-10

CHAPTER :- ISOMERISM

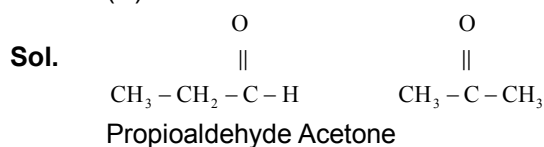
ANSWER KEY

1. (D)	2. (C)	3. (A)	4. (C)	5. (B)	6. (B)	7. (C)
8. (C)	9. (A)	10. (D)	11. (D)	12. (B)	13. (C)	14. (D)
15. (D)	16. (B)	17. (C)	18. (A)	19. (A)	20. (A)	21. (C)
22. (A)	23. (D)	24. (B)	25. (A)	26. (C)	27. (C)	28. (B)
29. (D)	30. (A)	31. (B)	32. (A)	33. (B)	34. (C)	35. (C)
36. (C)	37. (A)	38. (A)	39. (A)	40. (D)	41. (A)	42. (D)
43. (D)	44. (B)	45. (B)	46. (A)	47. (A)	48. (C)	49. (D)
50. (D)						

SOLUTIONS

SECTION-A

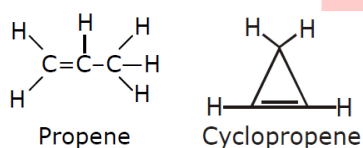
1. (D)



Aldehyde and ketone can show functional isomerism.

2. (C)

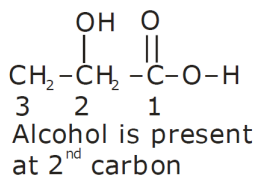
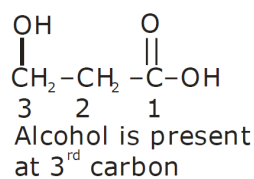
Sol.



They both have different molecular formula.

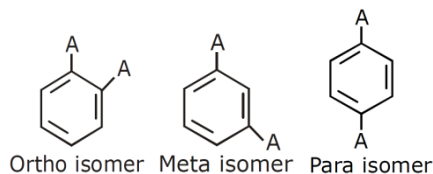
3. (A)

Sol.



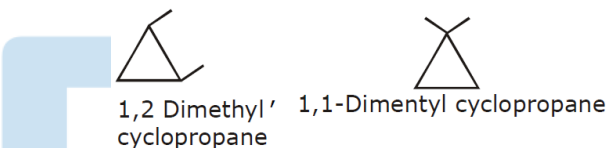
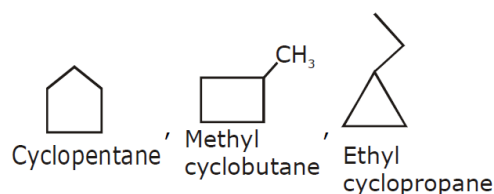
4. (C)

Sol.



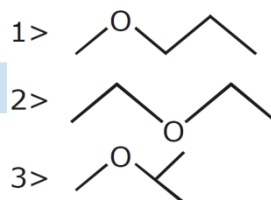
5. (B)

Sol.



6. (B)

Sol.



7. (C)

Sol.

- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$
- $\text{C}_2\text{H}_5 - \text{N}(\text{H}) - \text{C}_2\text{H}_5$
- $\text{C}_2\text{H}_5 - \text{N}(\text{CH}_3) - \text{CH}_3$
- $\text{CH}_3 - \text{CH}(\text{CH}_3) - \text{CH}_2 - \text{NH}_2$

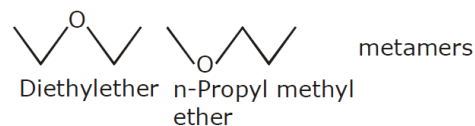
8. (C)

Sol.

Polyvalent bridge group with different alkyl radical attachment, therefore metamers.

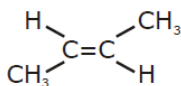
9. (A)

Sol.

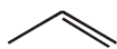


10. (D)

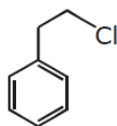
Sol.



Show geometrical isomerism



Do not show geometrical isomerism



Show geometrical isomerism

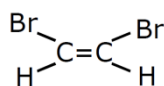
11. (D)

Sol. They all show geometrical isomerism

(i) C = C (ii) C = N (iii) N = N

12. (B)

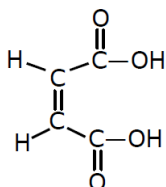
Sol.



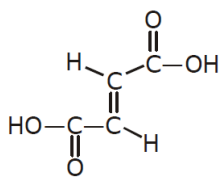
Restricted rotation present

13. (C)

Sol.



Maleic acid
cis-trans (Geometrical isomer)

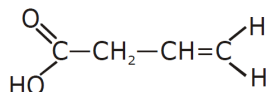


Fumaric acid

14. (D)

Sol.

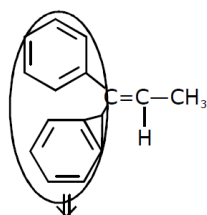
3-Butenoic acid



Same group therefore does not show geometrical isomerism.

15. (D)

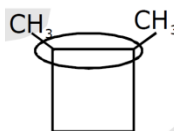
Sol.



Same group

16. (B)

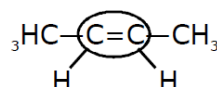
Sol.



Restricted rotation present, different group present in same plane.

17. (C)

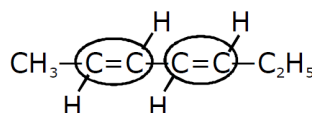
Sol.



Restricted rotation

18. (A)

Sol.



unsymmetrical

19. (A)

Sol.

Achiral objects are superimposable mirror images of each other.

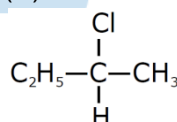
20. (A)

Sol.

An organic compound is chiral if all 4 groups attached to carbon are different.

21. (C)

Sol.



22. (A)

Sol.

Only to configurational isomers including geometric isomers.

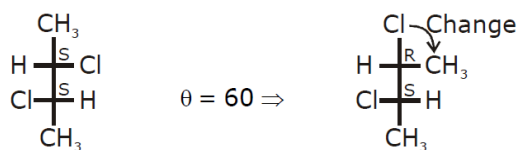
23. (D)

Sol.

Diastereomers are optically active but not mirror images.

24. (B)

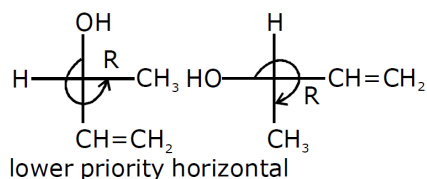
Sol.



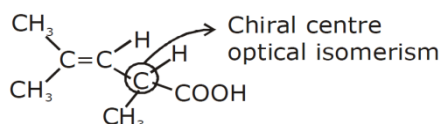
Diastereomers, so compound is meso hence $\theta = 0^\circ$

25. (A)
Sol. Resolution

26. (C)
Sol.

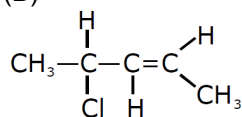


27. (C)
Sol.



28. (B)

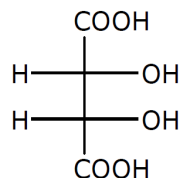
Sol.



29. (D)

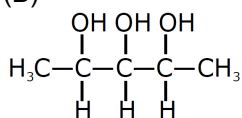
Sol. There are compounds which are diastereomers but have internal plane of symmetry, so such compounds are meso compounds and are optically inactive.

30. (A)
Sol.



31. (B)

Sol.



32. (A)

Sol.

Conformers are isomers which can be interconverted through rotation around single bond.

33. (B)

Sol. A,B,C are staggered form therefore m are stable than D. but, In A & C there is more steric hindrance due to methyl group and also due to rotation at 0° and 300° they have energy 7 kcal/mole and 2kcal/mole however in case of B rotation is 180° and energy is 1.8 kcal/mole.

34. (C)

Sol. A, B, D contain more repulsion due to methyl group.

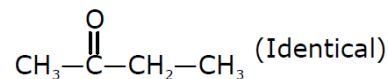
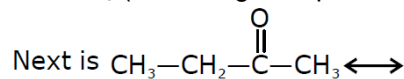
35. (C)

Sol. Different alkyl radical arrangement in bridging polyvalent atom.

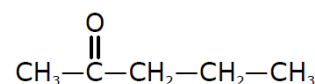
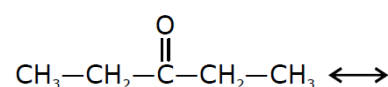
SECTION-B

36. (C)

Sol. The simplest ketone is acetone i.e. $\text{CH}_3\text{-CO-CH}_3$ (No arrangement possible)



If 5-C then

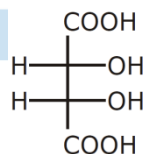


37. (A)

Sol. Metamers have some general formula but different arrangement of chains across functional group.

38. (A)

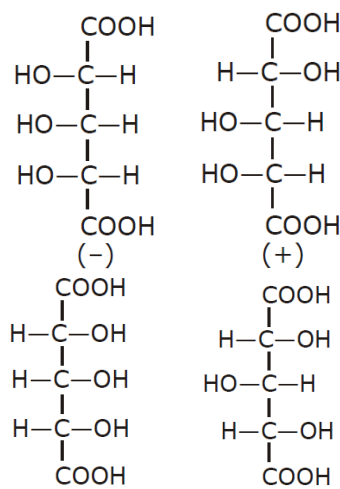
Sol.



P.O.S (Plane of Symmetry) Present

39. (A)

Sol.



It contain two asymmetric and one pseudoasymmetric carbon atom.

40. (D)
Sol. A and R false
 The two H-atoms on first carbon and the two H-atoms on the third carbon atom lie in perpendicular planes. The central carbon atom is sp -hybridised while terminal carbon atoms are sp^2 - hybridised.

41. (A)
Sol. The boiling point of cis 1,2-Dichloro ethene is higher than that of corresponding trans isomer because 1,2-Dichloro ethene has higher dipole moment as compared to that of the trans isomers.

42. (D)
Sol. $CH_3 - CH_2 - Br$ and $CH_3 - CH_2 - I$
 C_2H_5Br and C_2H_5I
 Two or more compound having the same molecular formula but different functional group are called functional isomer. But here the molecular formula are not same so they are not isomers.

43. (D)
Sol.

$$\begin{array}{c} CH_3 \\ | \\ CH_3 - C - CH_2 - Br \\ | \\ CH_3 \end{array}$$

(a)

$$\begin{array}{c} CH_3 \\ | \\ CH_3 - CH_2 - C - CH_3 \\ | \\ Br \end{array}$$

(b)

An enantiomer is one of the two molecule that are mirror image of each other and nonsuperimposable.
 (a) and (b) are not mirror image of each other

44. (B)
Sol.

$CH_3 - O - CH_3$	C_2H_5OH
Dimethylether	Ethanol
Functional Group: - Ether	Alcohol

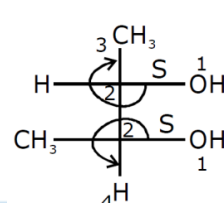
45. (B)
Sol. $C_2H_5 - O - C_2H_5$ can show metamers. They have two metamers
 1. $CH_3 - O - CH_2 - CH_2 - CH_3$
 Methyl propyl ether
 $CH_3 - O - CH - CH_3$
 2. $\begin{array}{c} | \\ CH_3 \end{array}$

46. (A)
Sol.

$$\begin{array}{ccccc} H & H & H & & \\ | & | & | & & \\ D - C & - C & - C & - Cl \\ | & | & | & & \\ H & H & H & & \end{array}$$

All 3 carbon have atleast one same group.

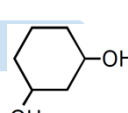
47. (A)
Sol.



(2S, 3S)

48. (C)
Sol. Diastereoisomers have different physical properties.

49. (D)
Sol.



50. (D)
Sol. Among the three conformers of ethane (Eclipsed, staggered, gauche) bond angle and bond length remains the same while their energy, stability and dihedral angle are different.