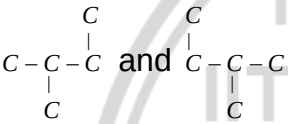
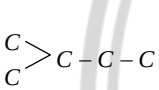
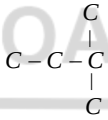
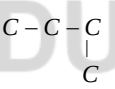
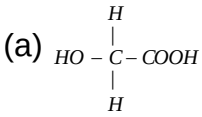
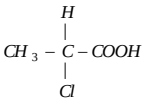
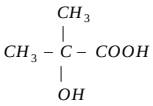
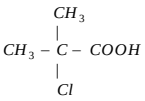
Structural and stereo isomerism

1. Only two isomers of monochloro product is possible of
   (a) *n*-butane
   (b) 2,4-dimethyl pentane
   (c) Benzene
   (d) 1-methyl propane

2. Which is the example of branch isomerization
   (b)  and
   (c)  and 
   (d) $C-C-C-C$ and 

3. The isomer of diethyl ether is
   (a) $(CH_3)_2CHOH$ (b) $(CH_3)_3C-OH$
   (c) C_3H_7OH (d) $(C_2H_5)_2CHOH$

4. Isomers have essentially identical
   (a) Structural formula
   (b) Chemical properties
   (c) Molecular formula
   (d) Physical properties

5. Which one of the following shows optical activity
   (a)  (b) 
   (c)  (d) 

6. In ethane and cyclohexane which one of the following pairs of conformations are more stable
   (a) Eclipsed and chair conformations
   (b) Staggered and chair conformations
   (c) Staggered and boat conformations
   (d) Eclipsed and boat conformations

7. Which of the following may exist in enantiomorphs
   (a) 
   (b) $CH_2=CHCH_2CH_2CH_3$
   (c) 
   (d) 

8. Which of the following compounds may not exist as enantiomers
   (a) $CH_3CH(OH)CO_2H$
   (b) $CH_3CH_2CH(CH_3)CH_2OH$
   (c) $C_6H_5CH_2CH_3$
   (d) $C_6H_5CHClCH_3$

9. Number of isomers of molecular formula $C_2H_2Br_2$ are
   (a) 1 (b) 2

(c) 3 (d) 0

10. Lactic acid shows which type of isomeri
(a) Geometrical isomerism
(b) Tautomerism
(c) Optical isomerism
(d) Metamerism

11. Which one of the following is an optically active compound
(a) *n*-propanol
(b) 2-chlorobutane
(c) *n*-butanol
(d) 4-hydroxyheptane

12. Compounds with same molecular formula but different structural formulae are called
(a) Isomers
(b) Isotopes
(c) Isobars
(d) Isoelectronic

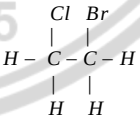
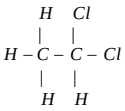
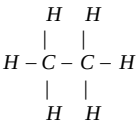
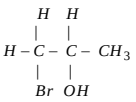
13. Which one of the following compounds shows optical isomerism
(a) $CH_3CHCl-CH_2-CH_3$
(b) $CH_3-CH_2-CHCl-CH_2-CH_3$
(c) $ClCH_2-CH_2-CH_2-CH_3$
(d) $ClCH_2-CH_2-CH_3$

14. Which one of the following objects is 'achiral'
(a) Letter P
(b) Letter F
(c) Ball
(d) A pair of hand

15. Total number of isomers of a disubstituted benzene compound is
(a) 1 (b) 2
(c) 3 (d) 4

16. Separating of *d* and *l* enantiomorphs from a racemic mixture is called
(a) Resolution
(b) Dehydration
(c) Rotation
(d) Dehydrohalogenation

17. Number of optical isomers of lactic acid are
(a) 1 (b) 2
(c) 3 (d) 4

18. Which one of the following contains asymmetric carbon atom
(a) 
(b) 
(c) 
(d) 

19. *n*-butane and isobutane are examples of
(a) Chain isomers

(b) Geometrical isomers

(c) Position isomers

(d) Tautomers

20. Which of the following has chiral structure

(a) $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - CH_2COOH$

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

(c) $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - CH_2OH$

(d) $CH_3 - CHOH - CH_2CH_3$

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