JEE MAIN : CHAPTER WISE TEST-11

SUBJECT :- CHEMISTRY **DATE.....**

CLASS :- 11th **NAME.....**

CHAPTER :- ISOMERISM **SECTION.....**

(SECTION A)

1. Which of the following are isomers ?

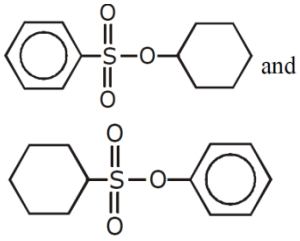
(A) Ethanol and ethoxy ethane

(B) Methanol and methoxy methane

(C) Propanoic acid and ethyl acetate

(D) Propionaldehyde and acetone

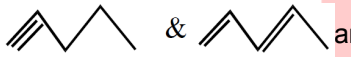
2. Given compound show which type of isomerism?



(A) Chain isomerism
(B) Positional isomerism
(C) Metamerism
(D) Functional group isomerism

3. Possible number of disubstituted benzene isomers is –

(A) 1 (B) 2 (C) 3 (D) 4

4.  are –

(A) Tautomers (B) Functional
(C) Position (D) All the above

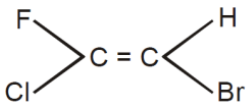
5. The number of ether metamers represented by the formula $C_4H_{10}O$ is -

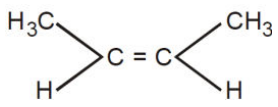
(A) 4 (B) 3 (C) 2 (D) 1

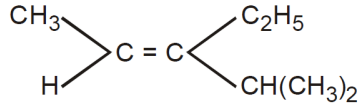
6. Which of the following compounds will show geometrical isomerism ?

(A) 2-Butene (B) Propene
(C) 1-Phenylpropene (D) Both A & C

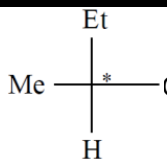
7. The E-isomer is -

(A) 

(B) 

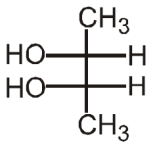
(C) 

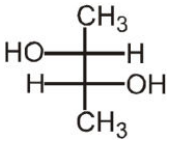
(D) none of the above

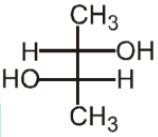
8.  It has chiral centre (). It is-

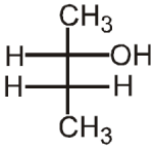
(A) R (B) S
(C) Both (D) None

9. A Fischer projection of (2R, 3S)-2,3-Butanediol is : -

(A) 

(B) 

(C) 

(D) 

10. The process of separation of racemic modifications into d and l enantiomer ; is called–

(A) Resolution
(B) Dehydration
(C) Revolution
(D) Dehydrohalogenation

11. Meso form of tartaric acid is –

(A) Dextrorotatory
(B) Laevorotatory
(C) Neither Laevo nor dextro rotatory due to internal compensation
(D) A mixture of equal quantities of dextro and laevo rotatory forms

12. A compound can be divided into two equal halves & contains even 'n' asymmetric carbon atoms. The number of optical isomer is –

(A) 2^n (B) $2^{(n-1)}$
(C) $2^{(n/2-1)}$ (D) $2^{n-1} + 2^{(n/2-1)}$

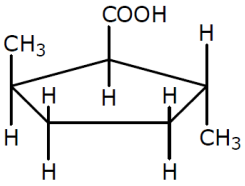
13. CH_3 - CH_2 - CH_2 - CH_3. There is free rotation about ($C_2\sigma C_3$) bond. The same most stable form is repeated after rotation of -

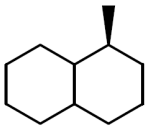
(A) 60º (B) 120º
(C) 240º (D) 360º

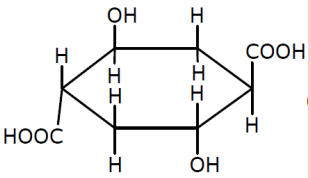
14. Ethyl acetoacetate shows -
(A) Enantiomorphism
(B) Geometrical isomerism
(C) Diastereoisomerism
(D) Keto-enol tautomerism

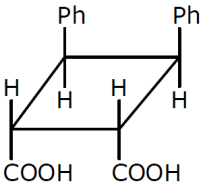
15. Which of the following does not show tautomerism ?
(A) $C_6H_5COCH_3$
(B) CH_3CHO
(C) CH_3COCH_3
(D) $C_6H_5COC(CH_3)_3$

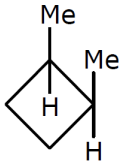
16. Which species exhibits a plane of symmetry ?

(A) 

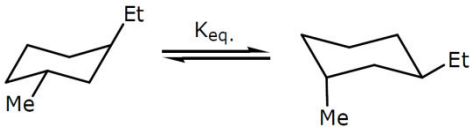
(B) 

(C) 

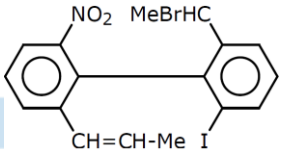
(D) 

17. 

Incorrect statement about this compound is:
(A) it shows geometrical isomerism
(B) it posses centre of symmetry
(C) it posses plane of symmetry
(D) it shows optical isomerism

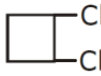
18. 

equilibrium constant for above reaction is:
(A) K = 1 (B) K > 1
(C) K < 1 (D) K = 0

19. How many stereoisomers are possible for the following compound ?


(A) 2 (B) 4 (C) 6 (D) 8

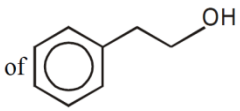
20. Sum of stereoisomer in the given compound (a) and (b) are:


= a (stereoisomer)


= b (stereoisomer) a + b = ?
(A) 3 (B) 4 (C) 5 (D) 6

(SECTION B)

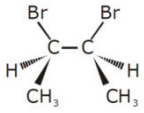
21. How many isomers are possible for nitrophenol ?

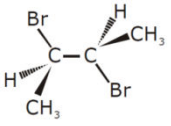
22. Calculate the number of isomeric ethers possible.


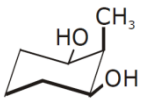
23. How many pair(s) of geometrical isomers are possible with C_5H_{10}(only in open chain structures) ?

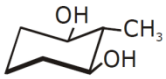
24. How many aldehydes are structural isomers with the formula $C_6H_{12}O$?

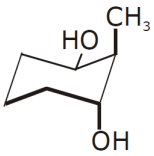
25. Among the following how many are meso compounds ?

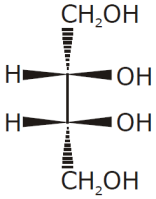
(i) 

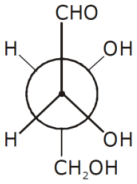
(ii) 

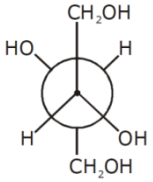
(iii) 

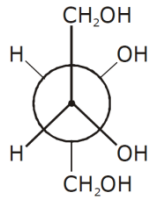
(iv) 

(v) 

(vi) 

(vii) 

(viii) 

(ix) 

26. Cyclohexane-1,4-dione is a polar compound, having dipole moment value of 1.2 D. If mol fraction of its chair form is 0.80, what will be the dipole moment of twisted boat form

27. Total number of geometrical isomers for following compound is:

Br–CH = CH–CH_2–CH = C=CH–CH_2–CH=CH–CH_2–CH=C=C=CH–CH = 

28. Total number of geometrical isomers possible for given compound.

CH_2 = C = C = CH– CH_2 – CH = CH – CH_2 – CH = N – OH

29. How many stereoisomers exist for 3-methylcyclopentanol?

30. Total stereoisomers of a given compound are ?