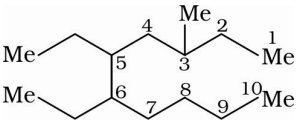
16 Non-superimposable, Enantiomers.

17.(BD) Carbonyl compound having αH atom show tautomerism.

18.(D) $CH_2 = CH - \underset{\oplus}{CH} = \underset{\ominus}{O} \leftrightarrow \overset{\oplus}{C}H_2 - CH = CH - \bar{O} \leftrightarrow \overset{\oplus}{C}H_2 = \overset{\ominus}{C}H - \overset{\oplus}{C}H = \overset{\ominus}{O}$

19.(CD) Tetrahedral carbon atom having four different substituents is called as chiral carbon atom.

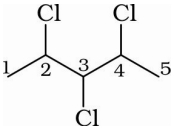
20. Triangular planar

21. 

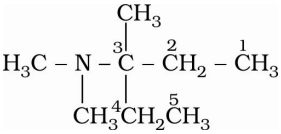
5, 6-diethyl-3-methyldecane

22.(A) $CH_3 - \underset{\underset{O}{\|}}{C} - CH_3 \rightleftharpoons CH_3 - \underset{\underset{\ddot{O}H}{|}}{C} = CH_2$ (Enolic form)

9σ bond $\longrightarrow$ 2 C – C σ bonds
5 C – H σ bonds
1 C – O σ bond
1 O – H σ bond

23.(T) 

C-3 is pseudo chiral center. Hence there are three asymmetric carbon atoms.

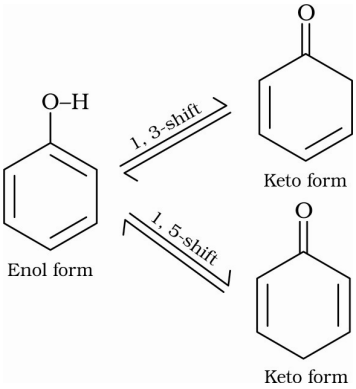
24. 

N, N-dimethyl 3-methyl pentan-3-amine

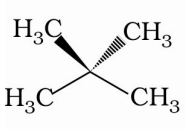
25.(C) $\underset{sp}{HC} \equiv \underset{sp}{C} - \underset{sp^2}{CH} = \underset{sp^2}{CH_2}$

26.(A) Conformers are stereoisomers which can be interconverted through rotation around a single bond between polyvalent atoms.

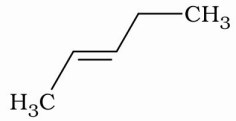
27. Phenol is enolic form



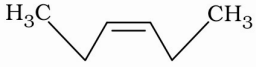
28.(BC)



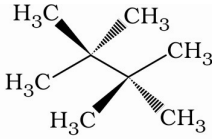
Symmetrical
$\mu = 0$



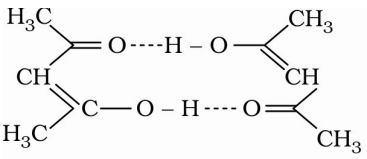
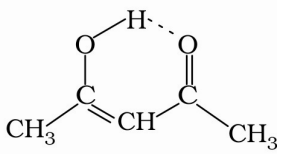
unsymmetrical
$\mu \neq 0$



symmetrical
$\mu \neq 0$



symmetrical
$\mu = 0$

29.  ; 

(Inter molecular H-bond) (Intra molecular H-bond)

30. Butane-1, 4-dioic acid