

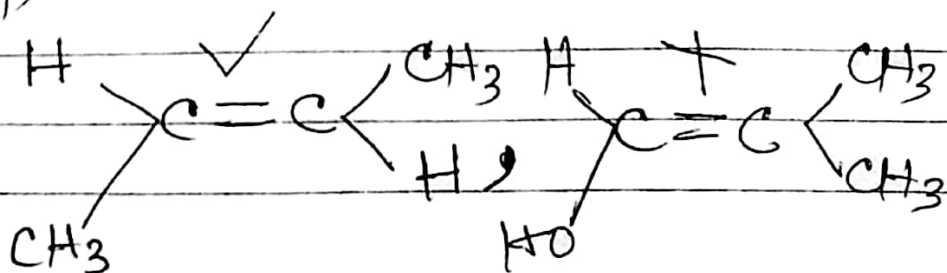
* Geometrical Isomers $\Rightarrow$

Condition for geometrical isomerism $\Rightarrow$

(i) Must at least $=$ bond or ring that because it restrict rotation

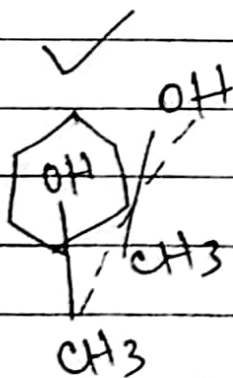
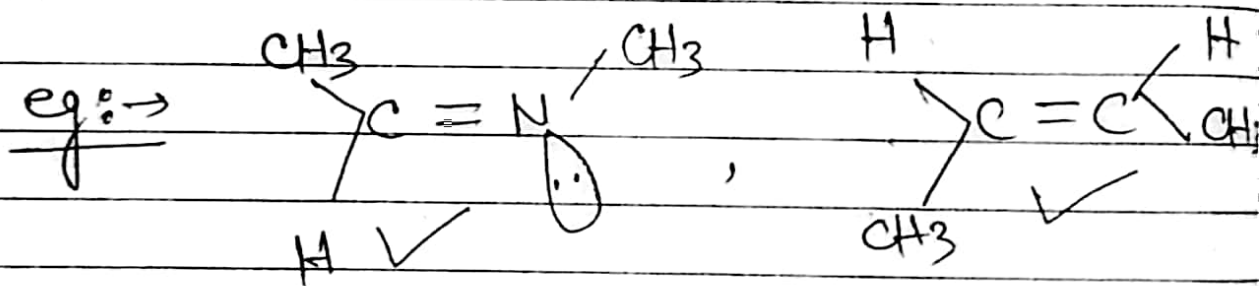
(ii) Each double bonded atom having 2 different atom or group. (one pair also act as f. group).

eg $\Rightarrow$



(a) Cis Isomerism $\rightarrow$ When diagonal atom or group are different in geometrical isomerism. It has more reactive nature, dipole moment, polarity than Trans isomerism.

$\rightarrow$ It has less mp/BP and stability than trans isomerism.



(b) Trans Isomerism $\rightarrow$ When diagonal atom or group are same in geometrical isomerism.

$\rightarrow$ It has less reactive nature, dipole moment, polarity than cis isomerism.

$\rightarrow$ It has more BP/MP and stability than cis isomerism.

NOTE: $\rightarrow$ cis dicarboxylic acid form anhydride on heating because it has OH but trans does not show this property.

