class – B.Sc. Part II (subsidiary)
Paper – gr. c (subsidiary)
subject – chemistry
Topic – Isomerism
Name – Dr. Rashmi Sinha
Dept. of chemistry
H. D. Jain college,
Ara

Isomerism

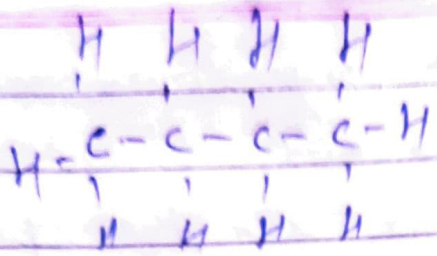
The compounds having same molecular formula but different chemical properties are known as isomer and the phenomenon is known as isomerism.

When this different in properties is due to the difference in their structure without any reference to space, they are known as structural isomers and the phenomenon is called structural isomerism.

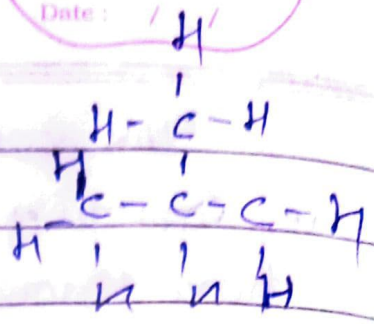
The following are different types of structural isomerism :-

① <u>chain isomerism</u> :- when the ~~different~~ different in properties of compounds is due to the different in the arrangement of carbon chains are known as chain isomers and the phenomenon is known as chain isomerism.

e.g :- molecular formula C_4H_{10} represents two chain isomers :- n-Butane and iso Butane



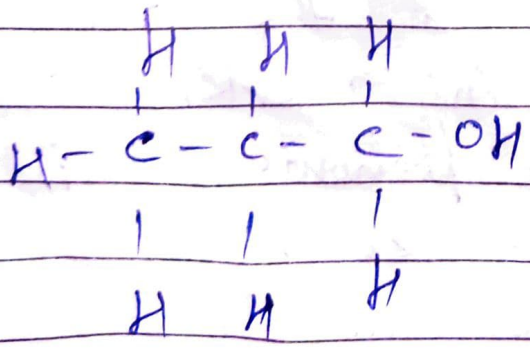
N- Butane



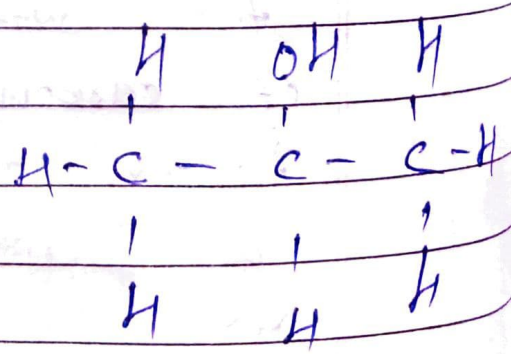
iso - Butane

(2) <u>Position isomerism</u> :- when the difference in properties of compⁿ is due to the difference in the position of their functional grⁿ or atoms are known as position isomers and the phenomenon is position isomerism.

e.g :- molecular formula C_3H_8O represents two isomers -
1- Propanol and 2- Propanol

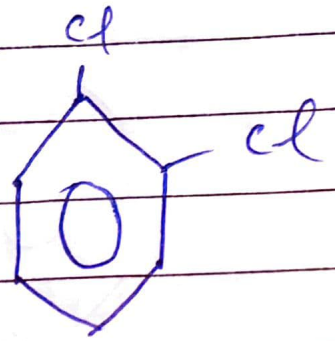


1- Propanol

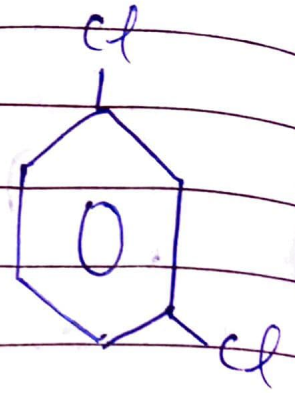


2 - Propanol

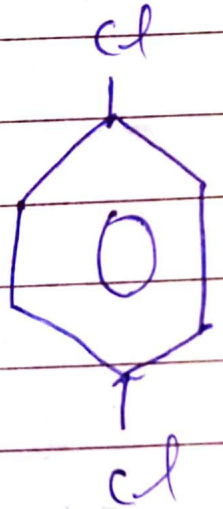
Similarly, molecular formula $C_6H_4Cl_2$ represents the isomers – o-dichlorobenzene, m-dichlorobenzene and p-dichlorobenzene



o-dichlorobenzene



m-dichlorobenzene

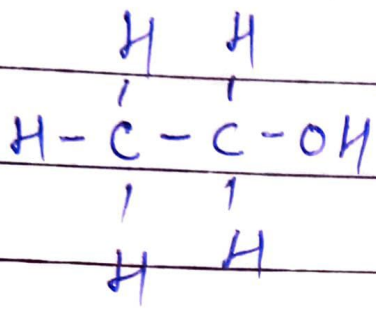


p-dichlorobenzene

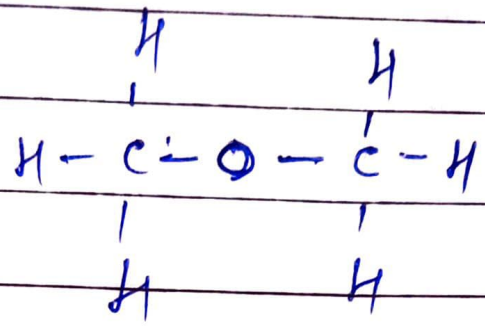
(3) <u>Functional isomerism</u> :– when the diff in properties of compounds is due to the difference in their functional gr. are known as functional isomers and the phenomenon

is called functional isomerism.

e.g :- molecular formula C_2H_6O represents Ethanol and methoxy-methane

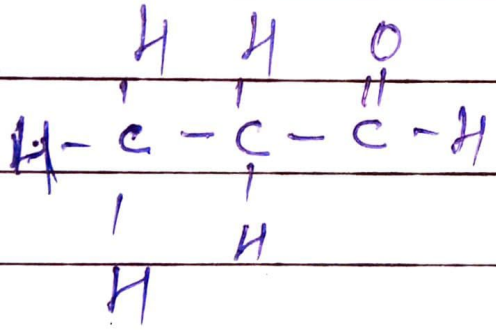


Ethanol

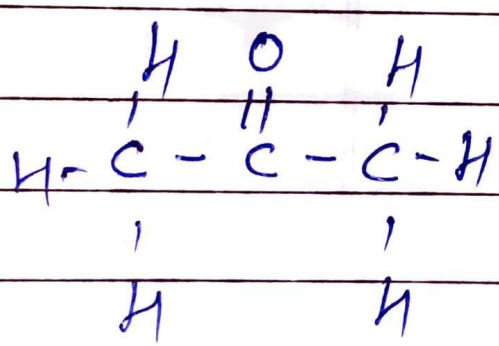


methoxy methane

C_3H_6O represents Propanal and Propanone



Propanal



Propanone