

TENDER HEART HIGH SCHOOL, SEC-33B, CHD.

CLASS - X
CHAPTER - 12

SUBJECT - CHEMISTRY
TEACHER - ANAMIKA

IUPAC Nomenclature

Acc. to the rules of this system, the name of organic compound consist of three parts.

- (i) Root word (ii) Suffix (iii) Prefix

(i) Root Word:- It depends upon number of carbon atoms present in longest carbon chain.

No. of carbon atom	Root Word
C ₁	Meth
C ₂	Eth
C ₃	Prop
C ₄	But
C ₅	Pent
C ₆	Hex
C ₇	Hept
C ₈	Oct
C ₉	Non
C ₁₀	Dec.

Suffix

Primary Suffix:- The root word is followed

by an appropriate suffix

Alkanes $C-C$ — ane
Alkenes $C=C$ → ene
Alkynes $C\equiv C$ → yne

2° Suffix:

Functional group

-OH

-CHO

-COOH

Secondary Suffix

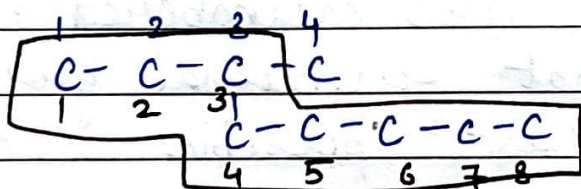
-ol

-al

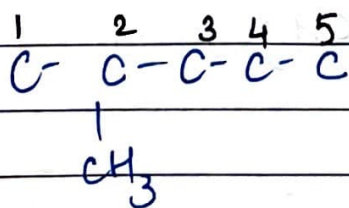
-oic acid

Rules of Nomenclature of Organic Compound:-

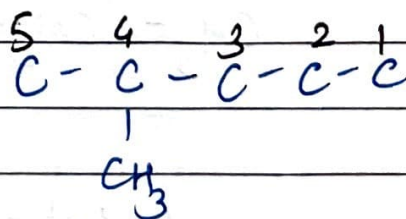
1. Selection of Carbon Chain:- longest chain.



2. The carbon atom of longest chain are numbered in such a way that alkyl group gets smallest number.

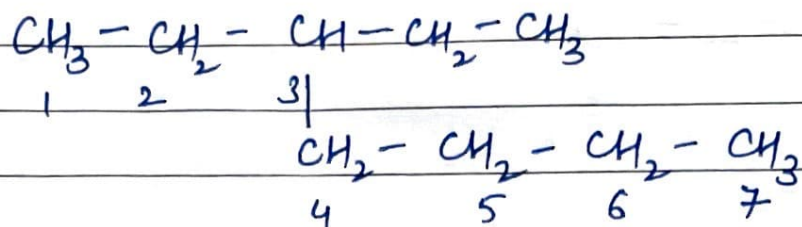


2-Methyl
Right



4-Methyl
Wrong

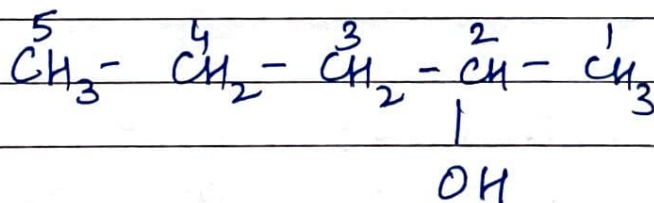
3. The position of alkyl group are indicated by writing position and name of alkyl group.



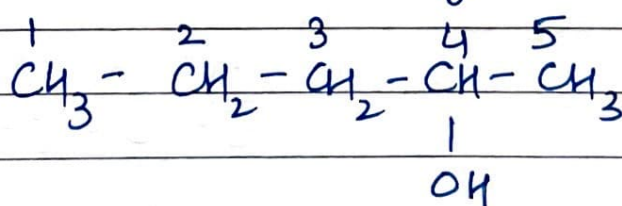
3-Ethylheptane

4. Multiple alkyl group are labelled with Greek numerical Prefix such as di for two, tri for three, tetra for four.

5. In case any functional group is also present in the chain, then. Carbon atom are numbered in such a way that functional group gets the smallest possible number.

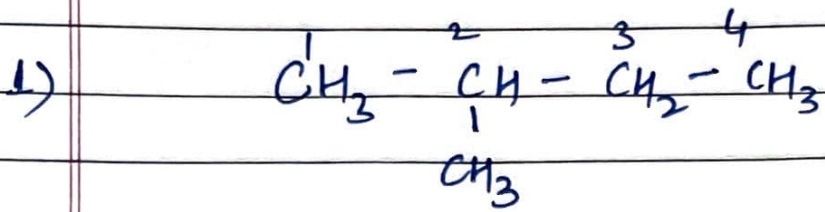


Pent-2-ol (Right)

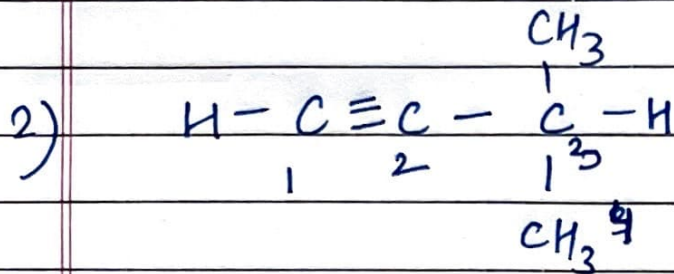


[Pent-4-ol (Wrong)]

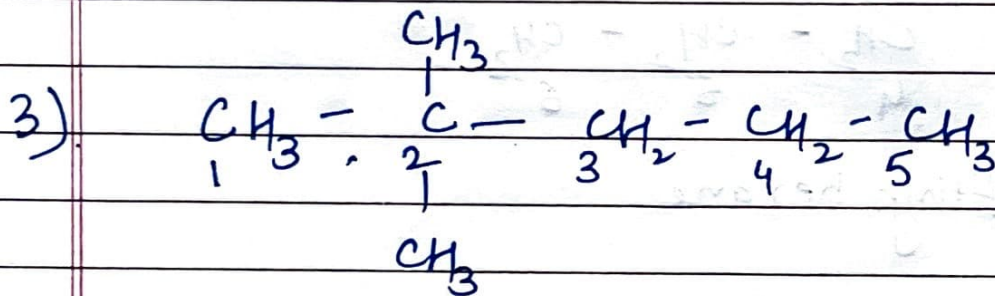
Examples of IUPAC name:-



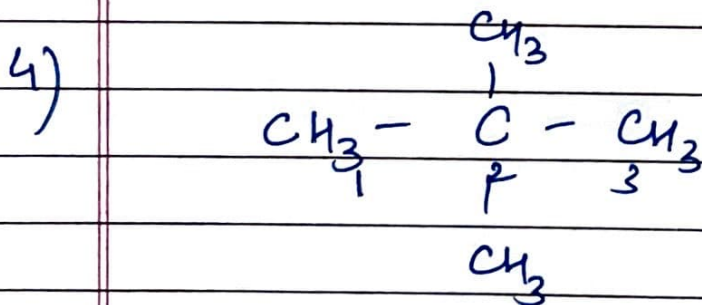
2-Methyl Butane



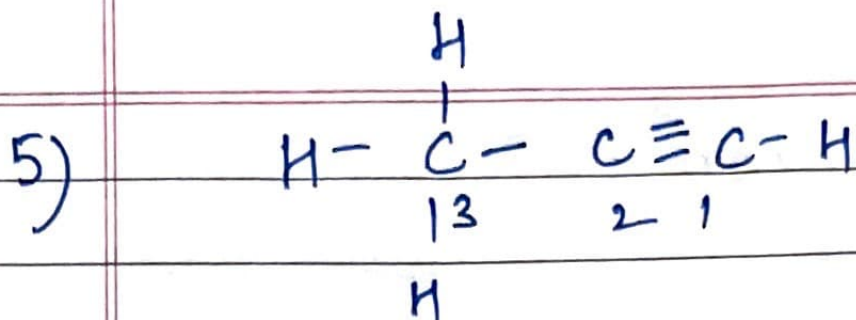
3-Methyl but-1-yne



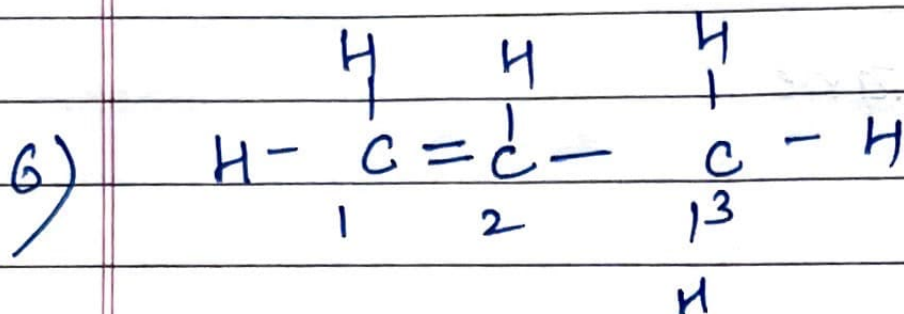
2, 2-Dimethylpentane



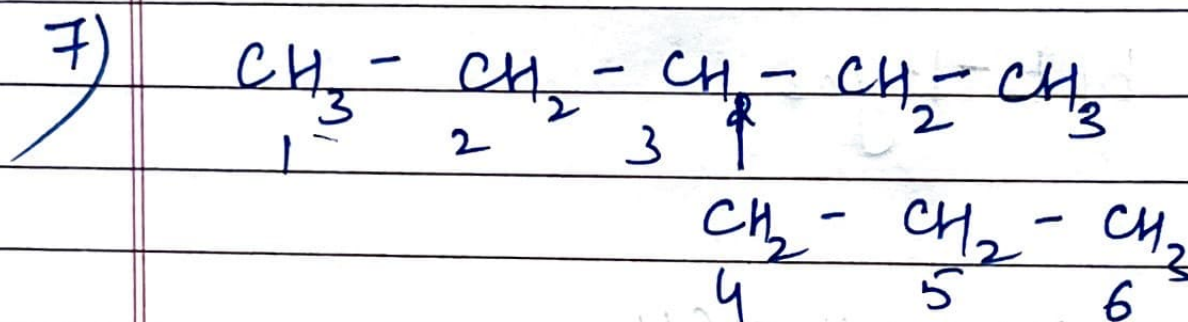
2, 2-dimethyl propane



Prop-1-yne



Prop-1-ene



3-Ethyl hexane