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Organic Compound	<b>Drganic Compound</b> One or more carbon atoms are covalently linked to atoms of other elements.					
Classification of Organic compounds						
Based on the pattern of Carbon chain	1. Acyclic or Open chain compound: Carbon atoms linked in a linear or open pattern.					
	• Saturated – Single bond $Ex$ : Ethane $CH_3 - CH_3$					
	• Unsaturated – Double or Triple bond $Ex$ : Ethene $CH_2 = CH_2$ , Ethyne $CH \equiv CH$					
	2. Cyclic or Closed chain compounds : Carbon atoms linked in a cyclic or closed pattern.					
	a) <i>Carbocyclic(Homocyclic)</i> – Chain contains Carbon atom only.					
	i) Alicyclic–It contains carbocyclic rings. Ex : Cyclobutane					
	ii) Aromatic-It contains benzene rings. (alternate double bond). Ex : Benzene					
	b) Heterocyclic – It contains carbon and other elements. Ex: Pyridine, Furan					
Hydrocarbons	The organic compounds that are composed of only carbon and hydrogen atoms.					
	Types :					
	1. Alkanes – It contains only single bond, saturated compound. Ex : Alkane, $C_n H_{2n+2}$					
	2. Alkenes – It contains double bond, unsaturated compound. $Ex$ : Alkene, $C_n H_{2n}$					
	3. Alkynes – It contains triple bond, unsaturated compound. $Ex$ : Alkyne, $C_nH_{2n-2}$					
Nomenclature of Organic Compounds						

A systematic method for naming the organic compounds based on their structures. IUPAC – International Union of Pure and Applied Chemistry (set of rules) Components of IUPAC : Prefix + Root word + Suffix

Prefix (Rule 2)		Root words (Rule 1)		Suffix			
(Substituent/Branch)		(No of Carbon atoms)		Primary(Bond type)(Rule 3)		Secondary (Functional group) (Rule 4)	
Substituent	Name	No of 'C' atoms	Name	Bond	Name	Group	Name
-F	Fluoro	1	Meth -	Single	-ane	Alcohol(-OH)	-ol
-Cl	Chloro	2	Eth -	Single	une	Aldehyde(CHO)	-al
-Br	Bromo	3	Prop -	Double	-ene	Ketone(-CO-)	-one
—I	Iodo	4	But -	Triple	-vne	Carboxylic acid	-oic acid
-NH <sub>2</sub>	Amino	5	Pent -	mpre	Jiio	(-COOH)	
-CH <sub>3</sub>	Methyl	6	Hex -	Rule 5 - When the primary & secondary suffixes are joined the terminal 'e' of the primary suffix is removed			s are joined,
$-CH_2CH_3$	Ethyl	8	Oct -				is removed.
		9	Non -	Rule 6 - Identify the substituent and use a number followed			
		10	Dec -	by a dash and a prefix to specify its location and identity			and identity.

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Classification of Organic compounds based on Functional group						
Functional Group : An atom or group of atoms in a molecule, which gives its characteristic chemical properties.						
Class of the Compound	Alcohol	Aldehyde	Ketone	Carboxylic acid	Ester(Fruity odour)	Ether
Functional group	—ОН	О    -С — Н	0    -C -	0    -C-OH	0    -C -OR	-0 - R
Common Formula	R – OH	R – CHO	R – CO – R	R – COOH	R – COOR	R - O - R
Example	Ethanol CH <sub>3</sub> CH <sub>2</sub> OH	Acetaldehyde CH <sub>3</sub> CHO	Acetone CH <sub>3</sub> COCH <sub>3</sub>	Acetic acid CH <sub>3</sub> COOH	Methyl acetate CH <sub>3</sub> COOCH <sub>3</sub>	Dimethyl ether CH <sub>3</sub> OCH <sub>3</sub>
uses	solvent, antiseptic agent	disinfectant	solvent, Stain remover	making dyes, pigments & paint	cooking oils and lipids contain esters	anaesthetic agents, Pain Killer

	Ethanol	Ethanoic acid				
Formula	$\begin{array}{c} H H H \\ H - C - O - H \\$	$\mathbf{M}_{\mathbf{F}}: \mathbf{C}_{2}\mathbf{H}_{4}\mathbf{O}_{2} \qquad \mathbf{S}_{\mathbf{F}} \stackrel{\mathbf{H}}{\overset{\mathbf{H}}{\overset{\mathbf{O}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{C}}{\overset{\mathbf{O}}{\underset{\mathbf{C}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{C}}{\overset{\mathbf{H}}{\underset{\mathbf{C}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{C}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{C}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\underset{\mathbf{H}}{\overset{\mathbf{H}}{\underset{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\underset{\mathbf{H}}{\atop_{\mathbf{H}}{\underset{\mathbf{H}}{\underset{\mathbf{H}}{\atop_{\mathbf{H}}{{_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{_{_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{\mathbf{H}}{\atop_{1}}{\atop_{1}}}}}}}}}}}}}}}}}}}}}}}}}}$				
2 <b></b>	i) Dilution of molasses	Oridation of ethanol in presence of alkaline				
Manufacture	i) Addition of Nitrogen source	potassium permanganate				
	iii) Addition of Yeast	$CH CH CH CH KMnO_{1}OH^{-}$ CH COOH + H O				
	iv) Distillation of 'Wash'	Ethanol Ethanoic acid				
/ /	<b>Rectified snirit</b> · Mixture of 95.5% ethanol and 4	5 % water				
	Mathylatad spirit : Mixture of 95% ethanol and 5% methanol					
Types of	Absolute alcohol · Pure alcohol (100%)					
Alcohols	Denatured spirit : Mixture of ethanol and pyridine					
	<i>Power alcohol</i> : Mixture of petrol and ethanol.					
	arboxylic acids, called fatty acids					
	Hard Soan : It is prepared by the seponification of oils or fats with caustic soda					
	Uses · Washing nurnose					
Soaps	Soft Soan : It is prepared by the sanonification of oils or fats with potassium salts					
	Uses Bathing purpose					
	Manufacture: Kettle Process – i) Saponification of oil ii) Salting out of Soap					
	Micelles : When a soan or detergent is dissolved in water, the molecules join together as clusters					
Cleansing	Cleansing Polar and (Hydrophilic): Short head of carboxylate Dissolved in water					
of Soap	<i>Non polar end</i> ( <i>Hydrophobic</i> ): Long tail of hydrocarbon chain - Dirt is attached miscelles					
	Sodium salts of sulphonic acids or alkyl hydrogen sulphates. Types •					
Detergente	1 <b>Biodegradable detergents</b> : Straight hydrogerbon chain easily degraded by bectorie					
Detergents	2 Non-hiodegradable detergents: Highly branched hydrocarbon chains cannot be degraded by bacteria					
t benenenenenenenenenenenenen	2. 1 <b>von-viouegradatie delergenis:</b> migniy oranched nydrocardon chains, cannol de degraded by bacteria.					