

CLASS- IX

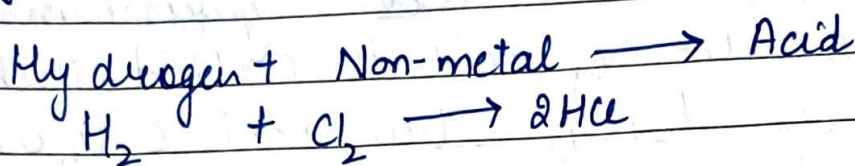
CHAPTER- 3

SUBJECT- CHEMISTRY

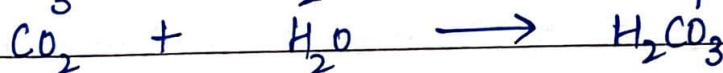
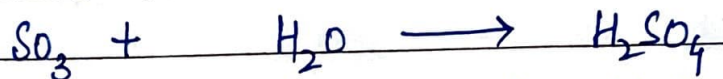
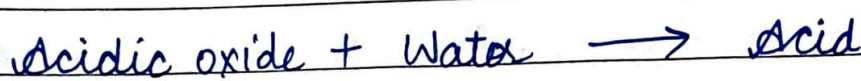
TEACHER- ANAMIKA

Preparation of Acid

(1) By synthesis:-

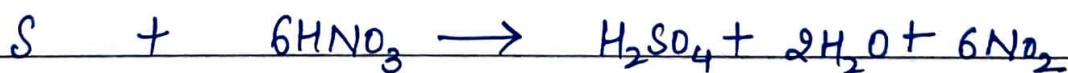


(2) By action of water on non-metallic or acidic oxide:-

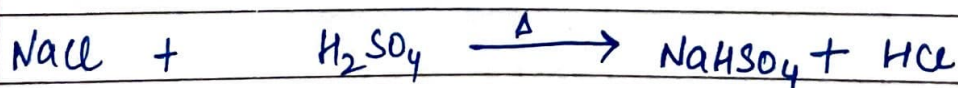


Note:- Only oxy acids can be prepared by this method.

(3) By oxidation of Non-metal:-



(4) By displacement:-



Properties of acid:-

Physical properties

1) Taste:- Mineral acids like H_2SO_4 and HNO_3 are highly corrosive in nature. Acids have sour taste.

2) Physical state:- Some acids are solid and some are liquid at room temp.

For e.g. H_3BO_3 , $(COOH)_2$, $H_3PO_4 \rightarrow$ Solid
 CH_3COOH , HCl , $HNO_3 \rightarrow$ liquid
 $H_2SO_4 \rightarrow$ Non volatile acid

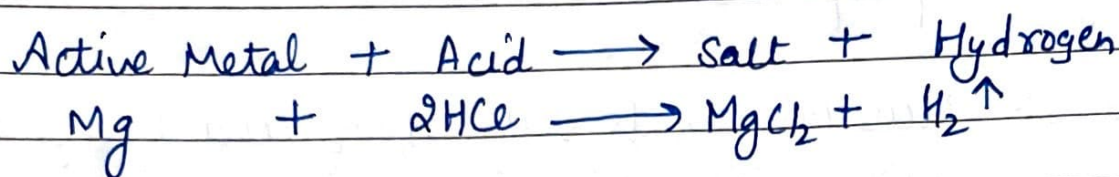
3) Effect on skin:- All mineral acid have corrosive action on the skin. & Cause painful burns and blister. Conc. H_2SO_4 Chars the skin black, conc. HCl gives amber colour to the skin. Carbonic acid & organic acid are not corrosive.

4) They change colour of indicators:-

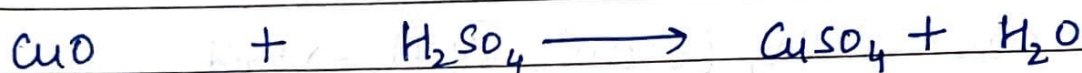
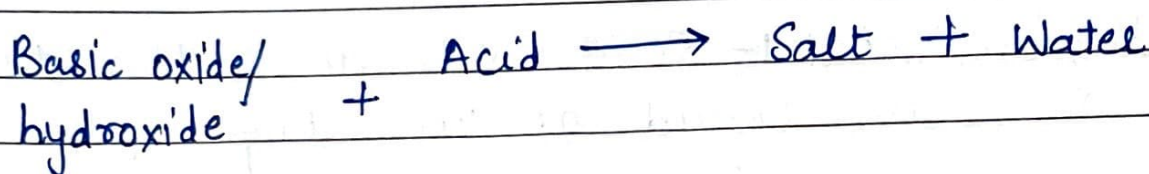
Indicator	Colour change in acidic medium
Litmus	Blue to red
Methyl orange	Orange to pink
Phenolphthalein	Remain colourless

Chemical properties:-

(1) Reaction of with active metal:-

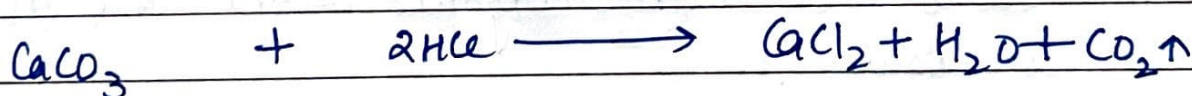
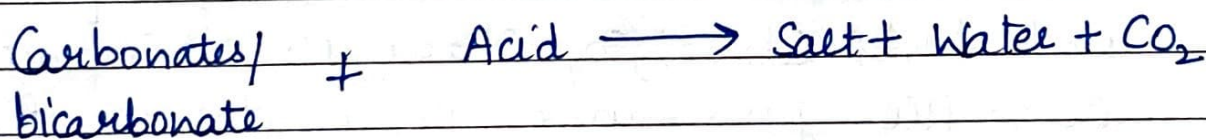


(2) Reaction with base - Neutralisation



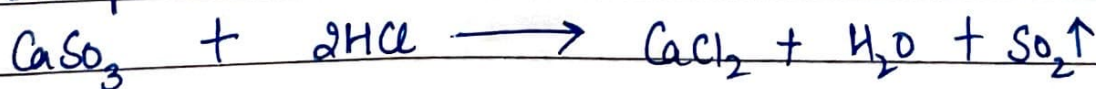
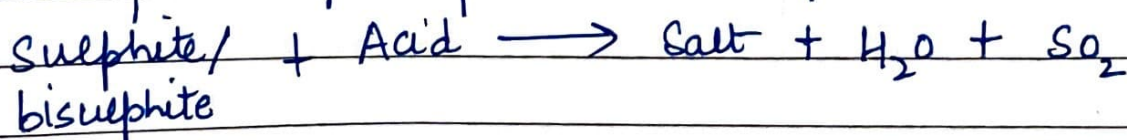
Action of dilute acid on salt

(3) Decomposition of hydrogen carbonates and carbonates

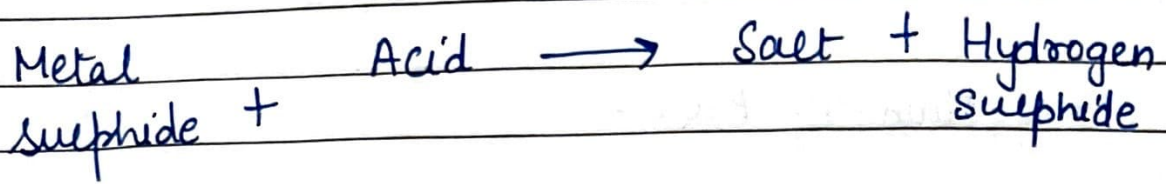


NOTE:- If salt produced is insoluble, then the reaction does not proceed. So, we do not expect lead carbonate to react with HCl or H_2SO_4 .

(4) Decomposition of sulphites & bisulphites:-



5) Decomposition of sulphides:-

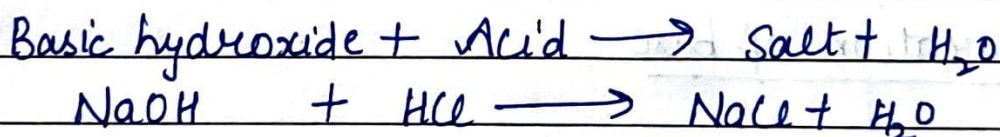


Bases:- A bases is either metallic oxide or metallic hydroxide which react with hydronium ion of acid to form salt and water only.

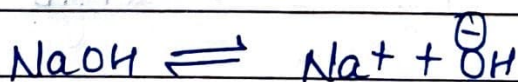
For example:- CuO , Mg(OH)_2

Basic oxide:- A basic oxide is a metallic oxide which contain the ion O^{2-} and react with an acid to form salt and water only.

Basic hydroxide:- It is metallic hydroxide which contain OH^- & will react with an acid to give salt and water only.



Alkalis:- An alkali is a basic hydroxide which when dissolve in water produces OH^-



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All alkalis are bases but all bases are not alkalis.

Classification of Bases:-

On the basis of strength

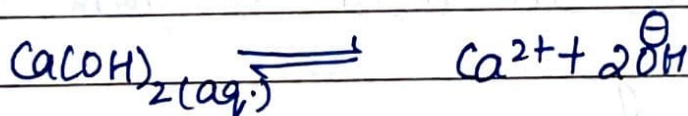
1) A strong alkali:- dissociate completely.

2) A weak alkali:- It undergoes only partial dissociation.

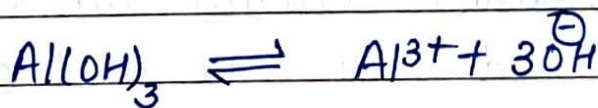
On the basis of their acidity:-

1. Monoacidic basic:- which produce $\text{OH}^\ominus$ ions.

2. Dibasic ~~acidic~~ ^{base}:- two $\text{OH}^\ominus$ ion.

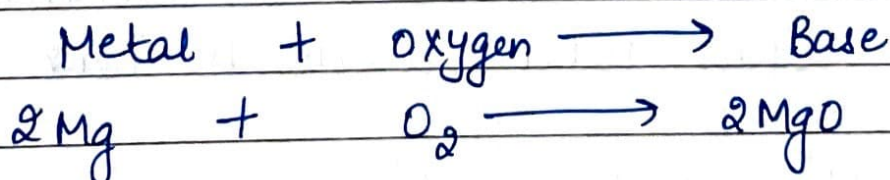


3. Tri^{acidic} basic base:- give three $\text{OH}^\ominus$ ion.

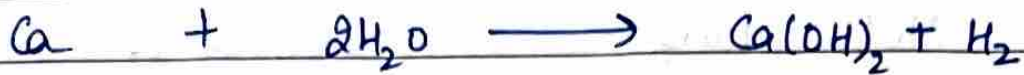
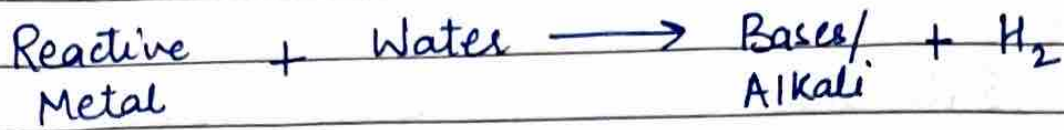


Preparation of base

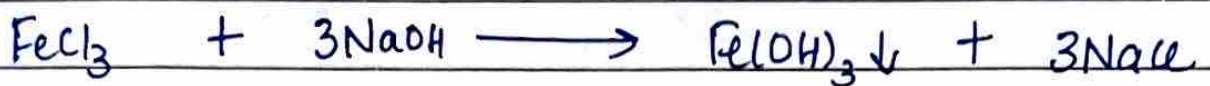
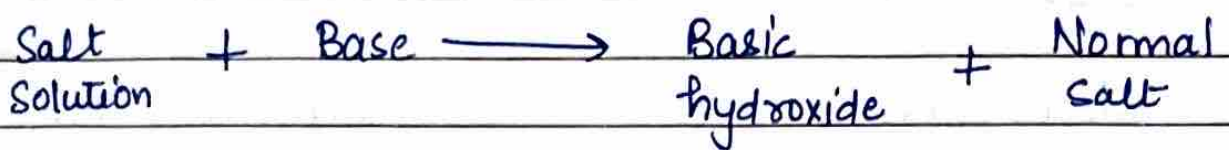
1. From metal:-



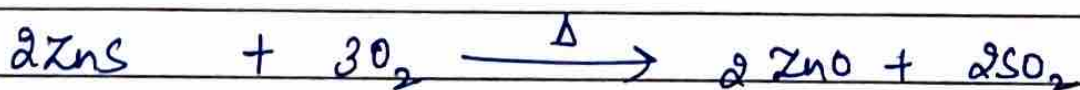
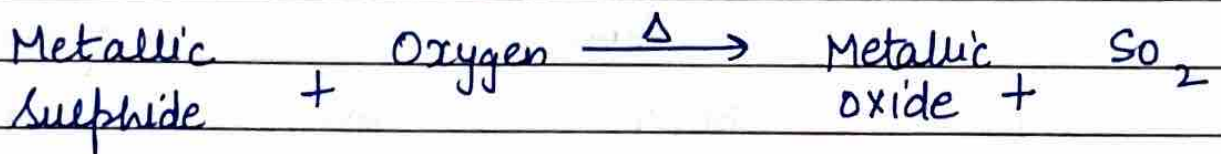
2) By action of water on reactive metal:-



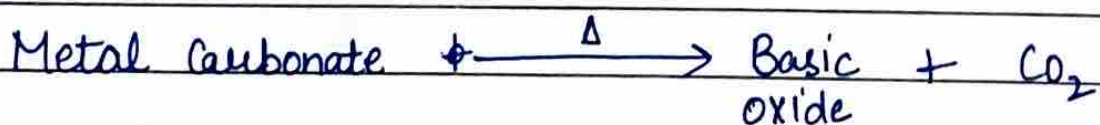
3) By double decomposition:-



4) By action of oxygen on metal sulphide:-



5) By action of Salt:-



Properties of base/alkali

Physical prop.

1. They have sharp & bitter taste

2.	Indicators	Colour change
	Litmus	Red to blue
	Methyl Orange	Orange to yellow
	Phenolphthalein	Colourless to pink

Chemical prop:-

