

Date.....

Chapter-1 (Science) chemical reaction and Equations

Change.

Physical
Change

Chemical
change.

- No new substance is formed
- New substances formed
- Temperature change → Permanent change
- reversible → irreversible

Ex → Ice melting
→ Boiling
→ Melting

Ex → Mixing of two colors
→ Burning of paper
→ Cooking.

* Identifying of chemical change →

- i Change in colour
- ii formation of gas
- iii Change in temperature
- iv Change in state.

(Ex → (Vinegar + Baking soda))

- Bubbles formation
- Temperature drop

Date.....

* Chemical Equation →

The symbolic representation of chemical reaction is called chemical equation.



Reactant

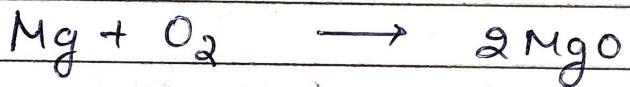
Product

(Ex)



* Skeletal Chemical equation →

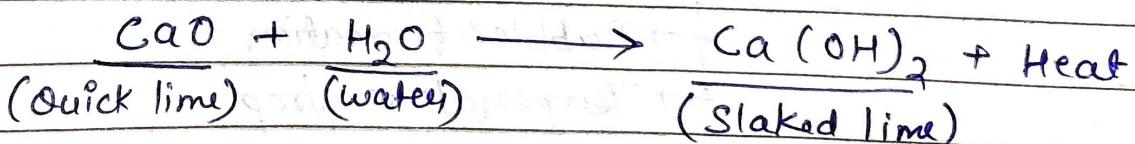
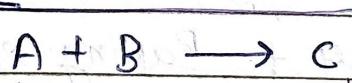
Simpler representation of equation by symbols and formula of reactant and product is known as skeletal chemical equation.



* Type of chemical Reaction →

①

Combination Reaction → Two or more reactants combined to form a single product.

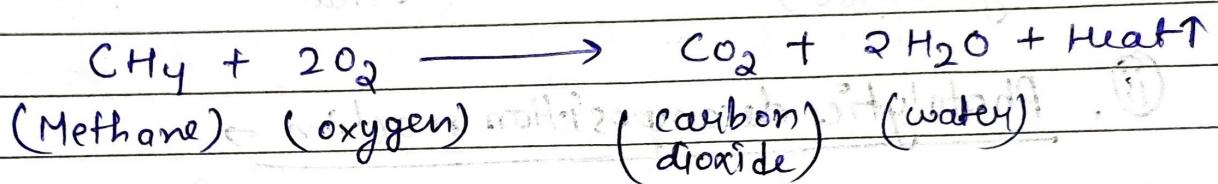
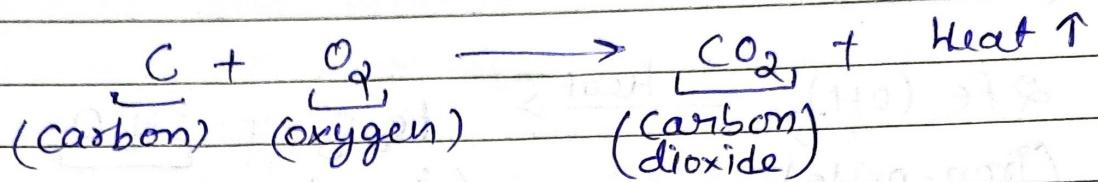


Magnesium (Magnesium) Oxygen

Magnesium oxide

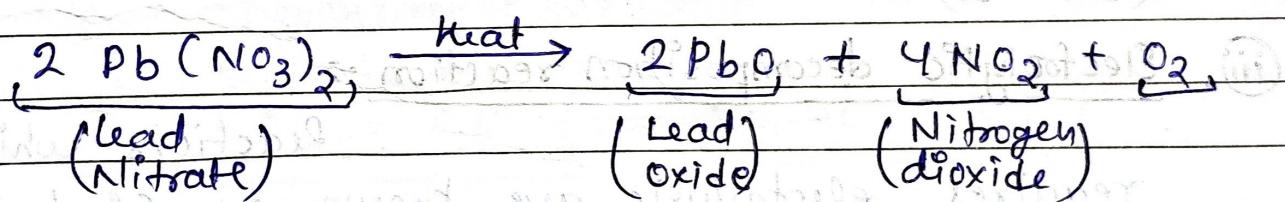
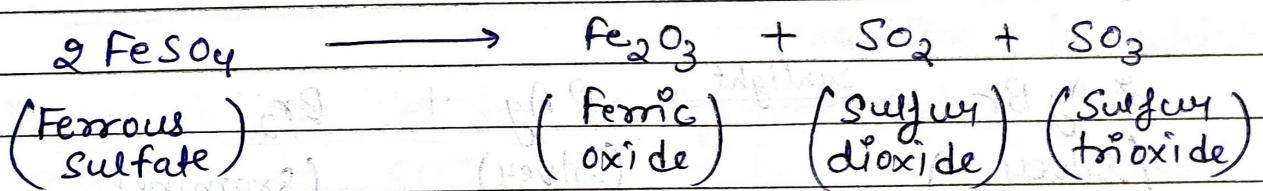
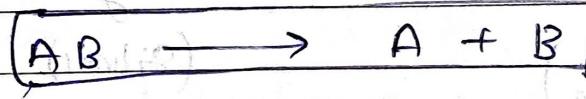
Date.....

→ Exothermic reaction → heat is released in this type of reactions.



② Decomposition Reaction →

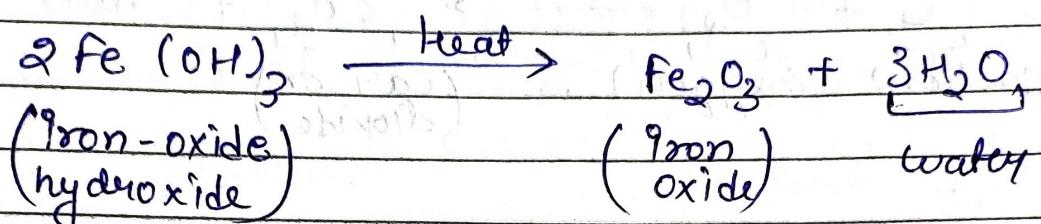
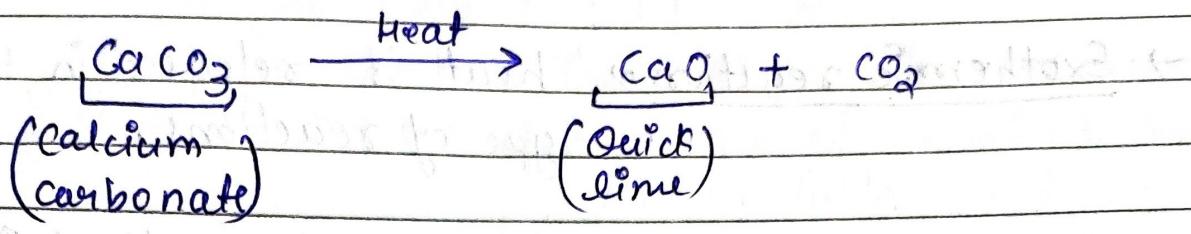
A single compound decomposes or break down to give two or more simple substances.



① Thermolytic decomposition reaction →

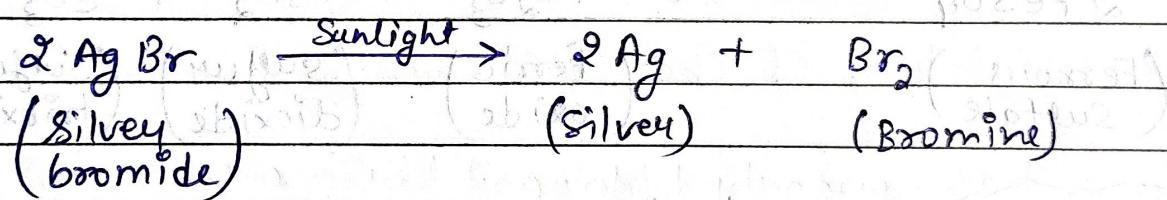
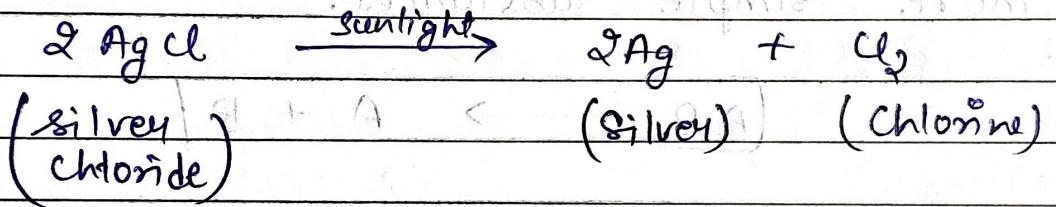
reactions which requires heat are known as Thermolytic decomposition reaction.

Date.....



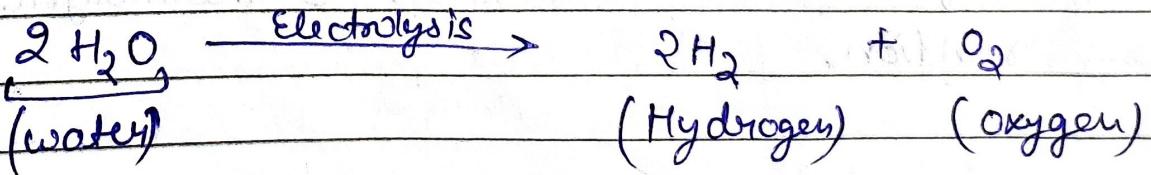
(ii). Photolytic decomposition reaction →

Reactions which requires sunlight are known as photolytic decomposition reaction.



(iii). Electrolytic decomposition reaction →

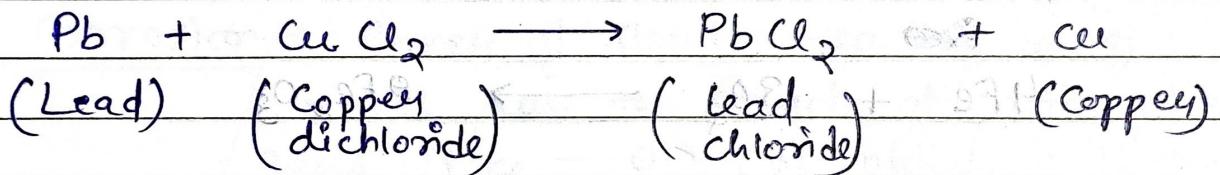
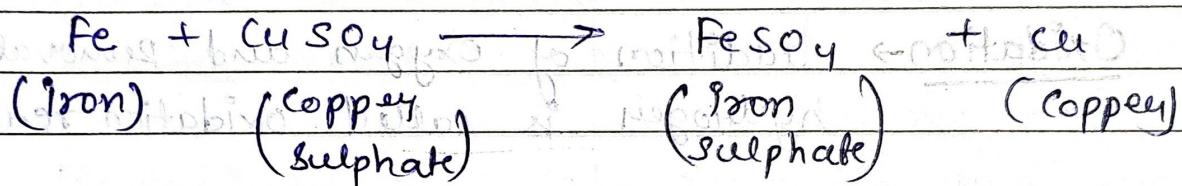
Reactions which requires electrolysis are known as electrolytic decomposition reaction.



Date.....

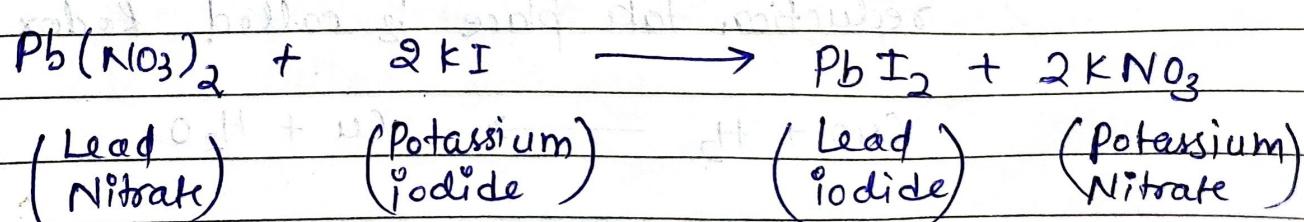
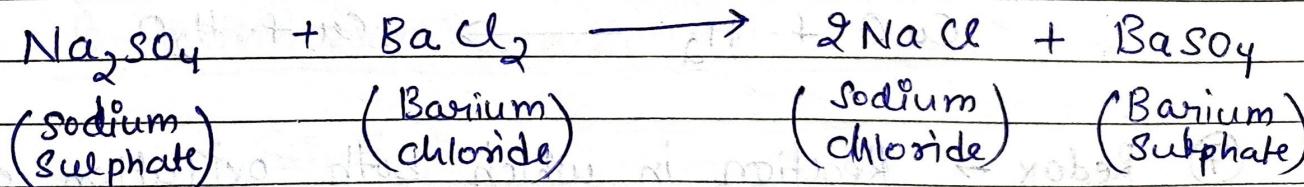
③ Displacement Reaction →

A more reactive element displaces less reactive element from its aqueous salt solution.



④ Double displacement Reaction →

Reaction in which there is an exchange of ions b/w the reactant to give new substance is called double displacement reaction.



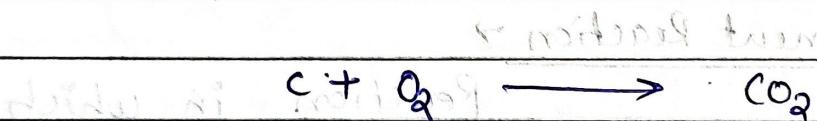
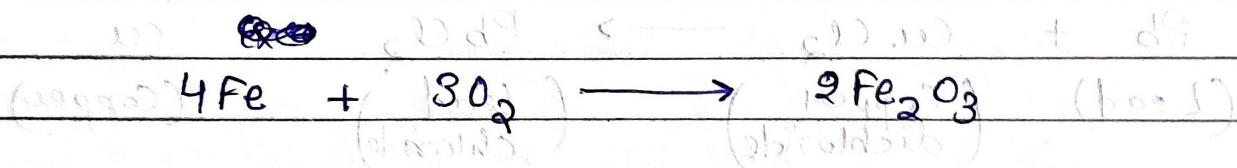
Date.....

→ Precipitation reaction →

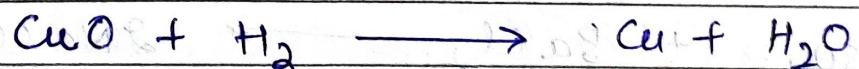
An insoluble solid known as precipitate is formed during a double displacement reaction, thus type of reactions are called Precipitation reaction.



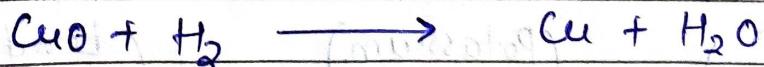
(5) Oxidation → addition of oxygen and removal of hydrogen is called oxidation reaction.



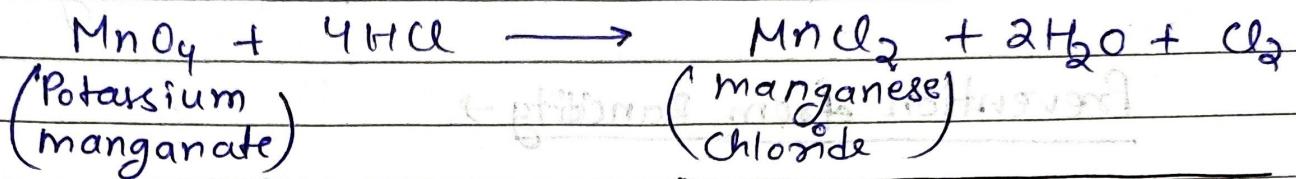
(6) Reduction → addition of hydrogen and removal of oxygen, is called Reduction reaction



(7) Redox → Reaction in which both oxidation and reduction take place is called Redox,



Date.....



Oxidising agent Reducing agent.

| | |
|---|--|
| → Substance that losses oxygen or gain Hydrogen it is called oxidising agent. | → Substance that losses hydrogen or gain oxygen it is called Reducing agent. |
|---|--|

★ Corrosion → Process of slowly reacting up of metal due to attack of atmospheric gases like O_2 , CO_2 etc.

→ it is a slow eating up of metal by the action of air and moisture on their surface is called corrosion.

Rusting → The corrosion of iron is called rusting.

Prevention from corrosion →

- (i). Painting
- (ii). Galvanisation (coating of zinc)
- (iii). oiling, greasing.

Date.....

* Rancidity → Oxidation of oil and fat in a food resulting into bad smell and taste is called rancidity.

Prevention from Rancidity →

- (i) Vacuum packing.
- (ii) Replacing air by nitrogen.
- (iii) Refrigeration of food stuff.

Bad odour of