

① Mole concept :-

$$\text{Number of moles} = \frac{\text{Given mass}}{\text{Molar mass}}$$

② Ideal gas equation :[Ⓟ]

$$PV = nRT$$

③ Concentration of solution :-

$$\text{Concentration} = \frac{\text{Amount of solute}}{\text{Volume of solution}}$$

④ Dilution formula :-

$$M_1 V_1 = M_2 V_2$$

(Molarity and volume before after dilution.)

⑤ Percentage Composition :-

$$\% \text{ Element} = \frac{\text{Mass of Element} \times 100}{\text{Total Molar mass}}$$

⑥ Empirical formula :-

Simplest ratio of atoms in a compound.

⑦ Balancing chemical Equations :-

$$\text{Total mass of reactants} = \text{Total mass of products}$$

⑧ Rate of Reaction Rate =

$$\frac{\text{change in concentration}}{\text{time}}$$

⑨ Avogadro's Number:

$$1 \text{ mole} = 6.022 \times 10^{23} \text{ particles}$$

Chapter 1: Chemical Reactions and Equations

⑩ General Form of a chemical

Reaction: -

Reactants \rightarrow Products

⑪ Balancing a chemical equations:-

The numbers of each element should be the same on the both side of the equation.

⑫ Law of Conservation of Mass:-

$$\text{Mass of Reactants} = \text{Mass of Products}$$

Chapter 2 : Acid, Bases and salts

(13) pH of a solution :

where,

$$pH = -\log [H^+]$$

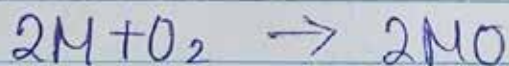
$[H^+]$ = Concentration of Hydrogen ions.

(14) Neutralisation Reaction; -



Chapter 3 : Metals and Non-metals

(15) Reaction of Metals with oxygen:

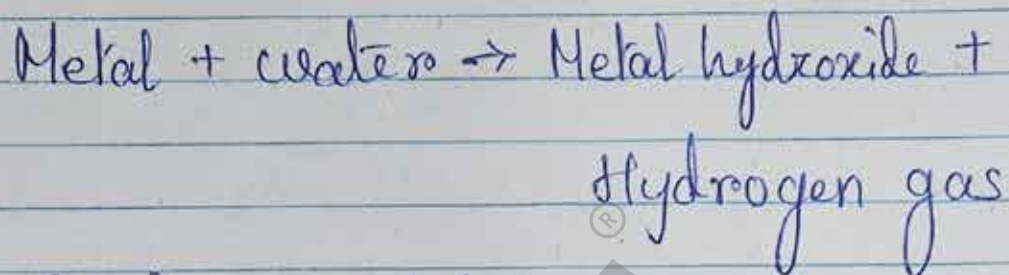


where,

M = Metal

MO = Metal oxide

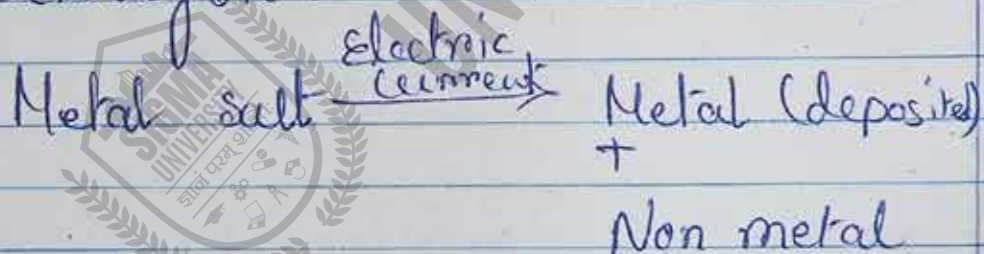
⑩ Reaction of metals with water:



⑪ Corrosion metals: -

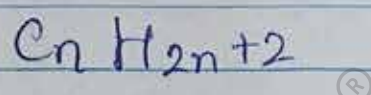
The formation of oxides or other compounds (rust) when metals react with air and water.

⑫ Electrolysis: -



Chapter 4: - Carbon and its compound

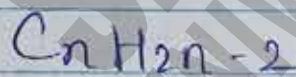
(19) General formula for alkanes! -



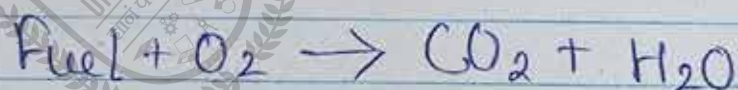
(20) General formula for Alkenes! -



(21) General formula for Alkynes! -



(22) Complete Combustion! -



(23) Incomplete Combustion! -

