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Part - I

## Atomic Structure.

### Dalton's-

- Matter is consist of small particles which is indivisible, called atom.
- Atom neither be Created nor be destroyed.
- Atom of same element are same but atom of different element are different.
- Atom has mass
- Atom takes part in chemical reactions.

Ques which of the following law of chemical combination is not proved by Dalton?

- ① Law of mass Conservation
- ② Law of definite Proportion
- ③ Law of multiple proportion
- ✓ ④ Avagadro's law

## Atomic Model :-

### Thomson Model: (Plum-Pudding Model)

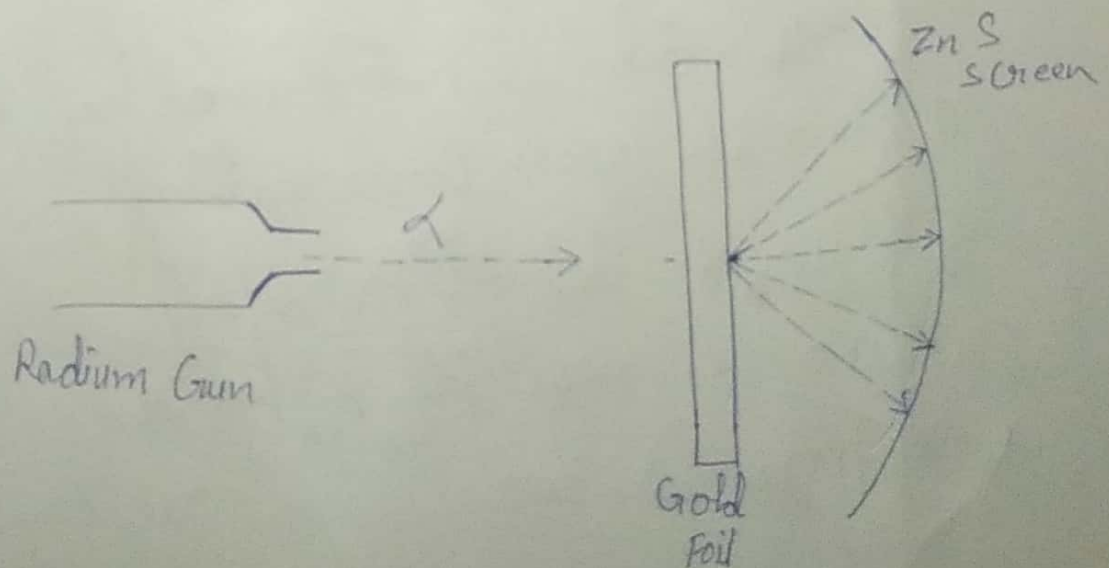
- $e^-$  are uniformly distributed in atom.
- atom is neutral.
- net +ve charge on atom  $\approx$  net -ve charge on
- mass of atom is uniform distributed.

#### Drawback:-

- $e^-$  are stationary they are revolving around nucleus.
- mass of atom is concentrated in nucleus.

### Rutherford Model:-

#### Rutherford $\alpha$ -Scattering experiment:-



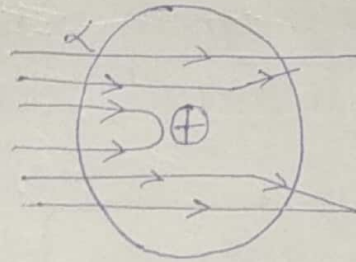
#### Observation:-

- ① Most of the  $\alpha$ -particle pass undeflected

- ② A few particles deflected at some angle
- ③ A very few (1 out of 20000) particles deflected at  $180^\circ$ .

Conclusion:—

- ① Most part of atom is vacant.
- ② Atom has some +ve charge in it.
- ③ +ve charge of atom is concentrated in nucleus.



$\alpha = He^{++}$   
 = +vely charged He ion

- Mass of atom is concentrated in nucleus.

Result:—

Rutherford Model:—

Rutherford  $\alpha$ -scattering experiment:—

→ Total +ve charge of atom is concentrated nucleus.

→  $e^-$  are revolving around nucleus.

→ mass of atom is concentrated at nucleus.

Proton & neutrons are present in nucleus which is called nucleons.