

TENDER HEART HIGH SCHOOL, SEC-33B, CHD.

CHAPTER- 4

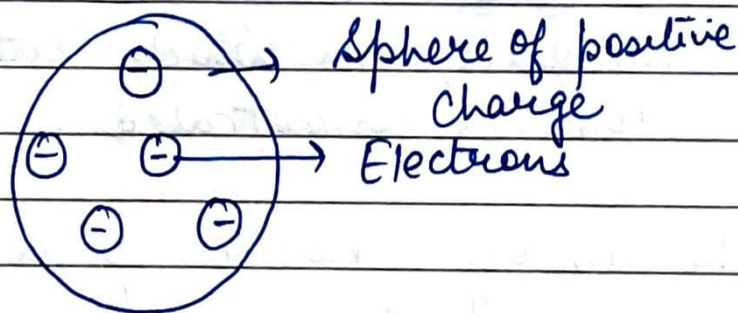
CLASS- VIII

SUBJECT- CHEMISTRY

TEACHER- ANAMIKA

J.J. Thomson Plum Pudding Model of Atom

1. An atom is considered to be a sphere of Uniform positive charge & e^- are embedded into it.
2. The total positive charge is equal to total negative charge so atom is electrically neutral.
3. The mass of an atom is considered to be uniformly distributed.



Discovery of Nucleus:-

Rutherford directed a stream of alpha particle towards a very thin gold foil. He selected a gold foil because he wanted a thin layer as possible.

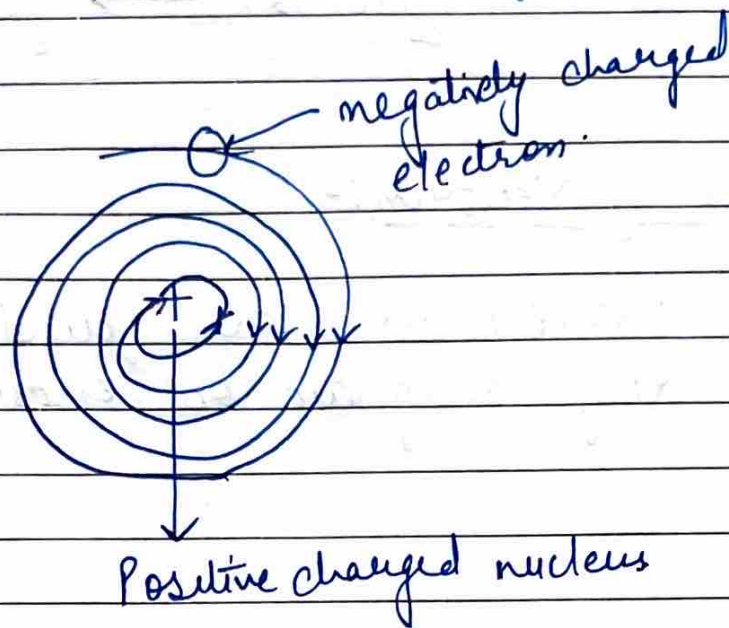
He observed that:-

- (1) Most of alpha particle passed straight
- (2) Some alpha particle were slightly deflected
- (3) Very few alpha particle were either deflected by very large angle.

Rutherford's atomic Model:-

1. The atom contain a large empty space. This is why most of α -particle pass through metal foil.
2. There is a positively charged mass at the centre of atom known as nucleus, in which entire mass of atom is concentrated.
3. The size of nucleus is very small compared to size of an atom.
4. The electron revolve around the nucleus at large distance from each other.
5. An atom is electrically neutral.
6. Electron revolve around the nucleus in close circular path.

Drawback of Rutherford's atomic Model:-
 The comparison of e^- with planet in solar system is the main drawback of Rutherford's atomic model. If an electrically charged particle is in motion, it is inevitably radiates energy.



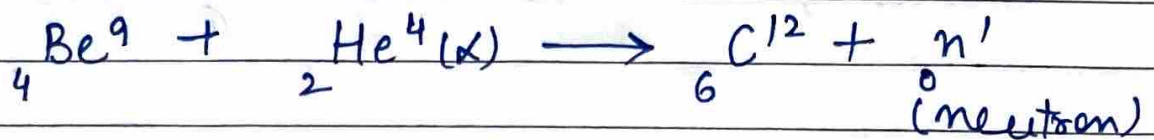
Bohr's atomic Model:-

Explained the cause of stability of atom.

1. The e^- revolving around the nucleus are confined to certain fixed orbit called shell.
2. While it is revolving around the nucleus in an orbit electron neither loses nor gain energy.
3. An e^- revolve in a particular orbit, on gaining a certain amount of energy, jumps to the next orbit.

Discovery of Neutron

Chadwick discovered these particles by bombarding light nuclei like beryllium with alpha particle.



Prop. of Neutron:-

1. This particle was not found to be deflected by any magnetic or electric field.