NIELS BOHR´S MODEL OF AN ATOM

In 1913 Niels Bohr proposed a shell model which explained the stable motion of electrons around the nucleus in discrete orbit. The atom is made of three sub-atomic known as protons, neutrons and electrons. In this model, the electrons revolve around the nucleus in defined orbits.

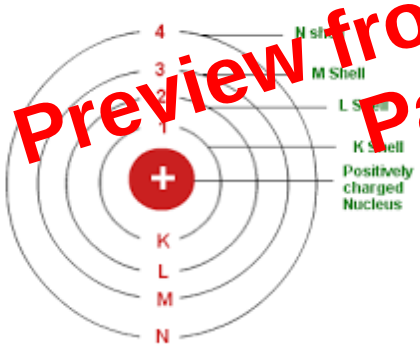
PROTONS: Protons are positively charged particles. They were discovered by Ernest Rutherford inside a nucleus.

ELECTRONS: Electrons are negatively charged particles. They were discovered by J.J Thomson.

NEUTRONS: Neutrons are neutrally charged particles. They were discovered by James Chadwick.

THE NUCLEUS: The nucleus contains positively and neutrally charged particles called protons and neutrons respectively

DISCRETE ORBITS: The discrete orbits in which electrons revolve around the nucleus is called SHELLS.
The shells are named in alphabets starting from the letter K, L, M, N... or in numbers 1, 2, 3...



When the electrons revolve in these discrete orbits or shells, they do not radiate energy and therefore do not fall into the nucleus.

VALENCY: Valency refers to the number of electrons on the outermost shell. These electrons are called Valence Electrons.

NUMBER OF ELECTRONS IN SHELLS: Each shell has a certain number of electrons that it can accommodate. This certain number can be obtained by using the following equation: $2n^2$ where n= the shell number.
Ex: K shell= $2n^2$

$2 \bullet 1^2 = 2$

Therefore, the number of electrons in K shell is 2.