

CLASS - VIII
SUBJECT - CHEMISTRY

CHAPTER - 4
TEACHER - ANAMIKA

An atom is build up of a number of sub-atomic particles. The three sub atomic particles of great importance. There are two structural parts of an atom, the nucleus and empty space in which there are Imaginary paths called orbit.

Nucleus:- The protons & neutrons are found in the central part of atom.

Orbits:- They are Imaginary path where electrons revolve around the nucleus of the atom.

Atomic Number (Z):-

1. An atom of an element has its own characteristic no. of protons in its nucleus
2. This characteristic number is called atomic number
3. It is denoted by Z.
4. Atomic No. is equal to no. of electrons in neutral atom

no. of proton = no. of electron

5. No. of proton gives total positive charge present in the nucleus of an atom.

Mass number [A]

1. Mass number is total number of protons + neutrons present in its nucleus. It is denoted by 'A'
2. It is a whole number approximation of atomic mass.

Distribution of electrons in the Orbit

Distribution of electrons in different shell is called electronic Configuration.

The following rules are followed for writing the no. of electrons in different energy levels or shells.

1. The maximum possible no. of electrons is $2n^2$ where n denotes serial number of that shell.
2. Electrons are not accommodated in a given shell. Shells are filled in stepwise manner.

3. The outermost shell of an atom cannot more than 8 electrons, even if it has the capacity to accommodate more electrons.
4. The outermost shell of a chemically stable atom can accommodate a maximum of 8 electrons, except hydrogen & helium atom.

Structure of Magnesium atom:-

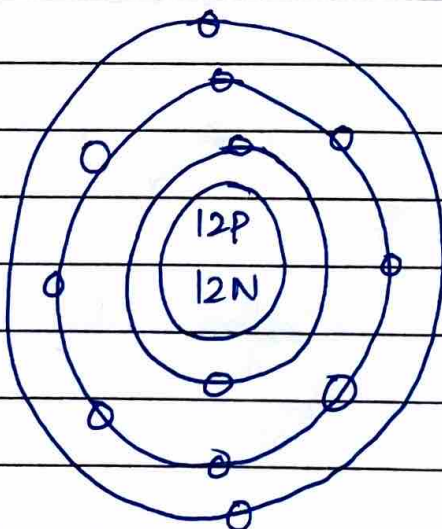
Mg $\rightarrow$ At no. = 12
Mass number = 24

$$\text{Mass no.} = \text{No. of proton} + \text{No. of } e^- \text{ neutron}$$

$$24 = 12 + x$$

$$x = 12$$

K	L	M
2	8	2



Mg atom