

For example see the structure of hydrogen and carbon atom. Hydrogen has only one proton so it has only one electron. Carbon has 6 protons, so the first energy level can hold 2 electrons and remaining 4 electrons can hold by the second energy level. The group number of the atom depends upon the number of electron present in the outer most orbital or energy level.

For example barium is in the group 2, since it has 2 electrons in the outer most orbital and iodine is group 7 since the iodine has 7 electrons in the outer most orbital.

General Structure of an Atom

The general structure of atoms is described with the help of quantum mechanics. Of these, **Bohr's theory of hydrogen based on Rutherford's nuclear atom and making use of those ideas of Planck to triggered the discussion of atomic structure.**

1. Bohr's semi classical theory was not general enough to describe more than the gross features of the simplest one-electron atom, but it provided a model of an atom which is viable and accepted as well.
2. The general atomic structure consists of three fundamental particles, protons and neutrons, which are basically contained within the atomic nuclei and electrons which surround the nuclei.
3. Protons and neutrons are nothing but considered to be the composite particles with each having three quarks and are therefore not fundamental particles in true sense.
4. They might be considered as fundamental particles for all kinds of chemical purposes.
5. General structure of an atom mainly consist sub atomic atoms like protons, electrons, and neutrons.
6. Below figure shows the general structure of an atom. The most of the atoms are empty space, but some of the atoms consist of positively charged nucleus which is consist of positively charged protons and no electrical charges (neutral) of neutrons that are surrounded by negatively charged



electrons which are form a complex cloud around the nucleus.

7. So, the nucleus is the center of the atom surrounded by a cloud of electrons.
8. Protons are resided in the center of the nucleus of an atom that contains large mass with positive charged particle.
9. Many type of elements defined by the number of protons in the nucleus which is referred to as its atomic number. For example the atomic number hydrogen atom is one, since it has only one proton in nucleus and the atomic number of carbon atom is six, since it has six protons in that nucleus.
10. Neutrons are resided in the center of nucleus of an atom along with protons. Neutron mass is almost identical to the proton mass.
11. Electrons are move around the nucleus and placed in the atomic orbital, which are called as energy level.
12. The principle quantum number (n), and secondary quantum number (l) are used to define the energy level of an atom.
13. Usually, the number of electrons are equal to number of protons, so the net charges in the atom is zero, such type of type of atoms are called as electrically neutral atom. Some times atoms can loose or gain electrons resulting in negative or positive charge atoms, such type of atoms are called as ions.
14. The atomic number of any element can used to indicate how many number of protons and electrons are their in that element.
15. A proton atom has 1836 times that of electrons mass, since electron atom has very little mass and neutron mass is almost identical to proton mass. Electrons are having very little mass compared with proton, so they are not taken in the consideration for the calculation of atomic mass.

The atomic mass of any element can used to indicate only how many numbers of protons and neutrons are their in that element not number of electrons.