

Atomic Structure

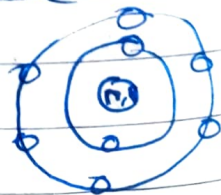
→ Definitions

→ Elements and atoms

- Element is a species that cannot be broken down by chemical means
- Elements are made up of atoms. Each element is composed of a unique type of atom. Atoms are particles that cannot be broken down by chemical means.

→ Structure of an atom

- atom consists of a nucleus surrounded by electron shells
- The nucleus is made up of protons, which are +vely charged, and neutrons, which are neutral and have no charge
- The e^- shells are composed of electrons that revolve around the nucleus. Electrons are -vely charged.
- In an atom no. of protons = no. of electrons
- The proton number is the atomic number
- The sum of no. of protons and neutrons is the mass or nucleon number
- To calculate the number of electrons that can be there in a shell we use $2n^2$ where n is the shell number.



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→ Ions

→ Ions are atoms that attain a charge after gaining or losing electrons

→ Positive ions are called cations

→ Negative ions are called anions