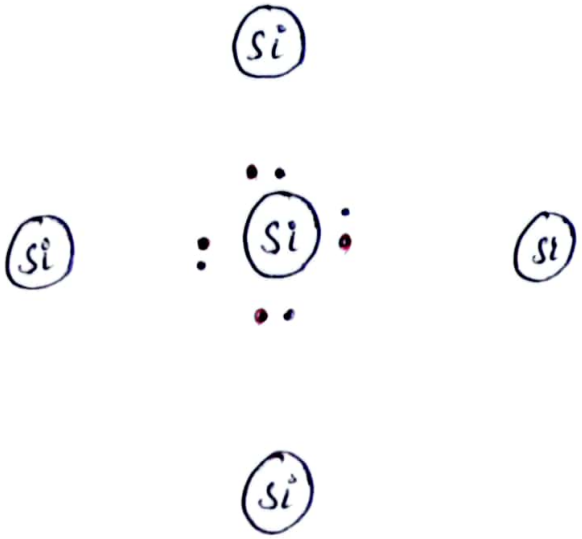
Intrinsic & Extrinsic Semiconductor

A Semiconductor in its extremely Pure form is Called intrinsic Semiconductor.

e.g Si, Ge



→ electron in Silion Atom make a Covalent bond with anotor electron in Silicon Atom.

→ Silicon have Complete eight electrons in its valence shell, with the help of Covalent bonding

→ No free electron in valence Shell.

→ when we increase the temperature, these Covalent bond easily break, electron hole Pairs will generate

→ Electron hole Pair

Dopping

A Process in which impurity is added to Pure Semiconductor.

$1 : 10^6$ — Atom

Extrinsic Semiconductor

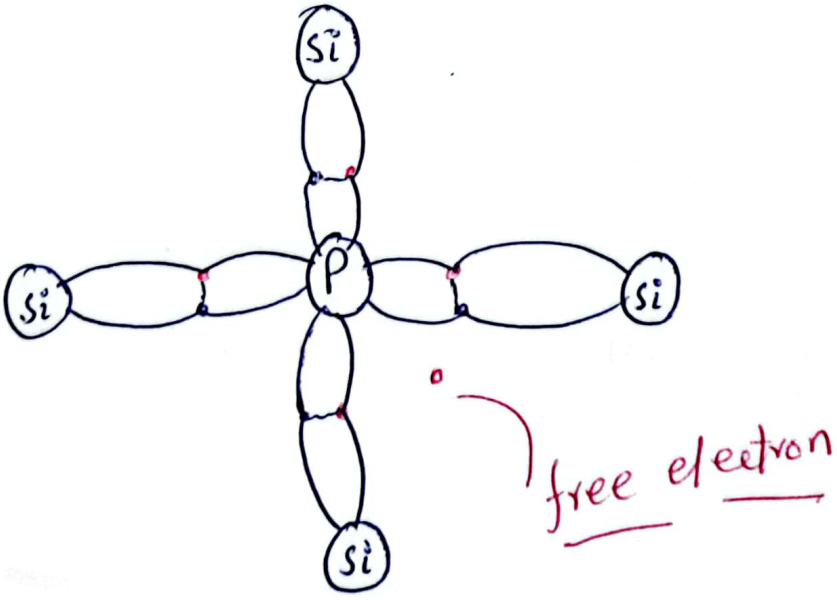
A dopped Semiconductor is Called extrinsic Semiconductor.

- N-type
- P type

Pentavalent

Trivalent

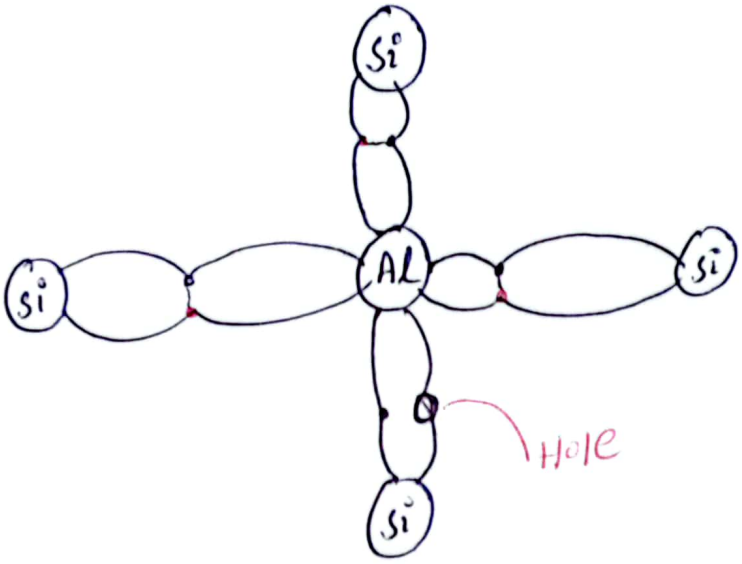
N-Type



electrons majority Carriers

Holes minority Carries

P- Type



→ Vacancy of electron is Called Hole

→ In P-type holes is majority Carriers

→ electrons is minority Carries.