

# 26-Semiconductors

# Semiconductors

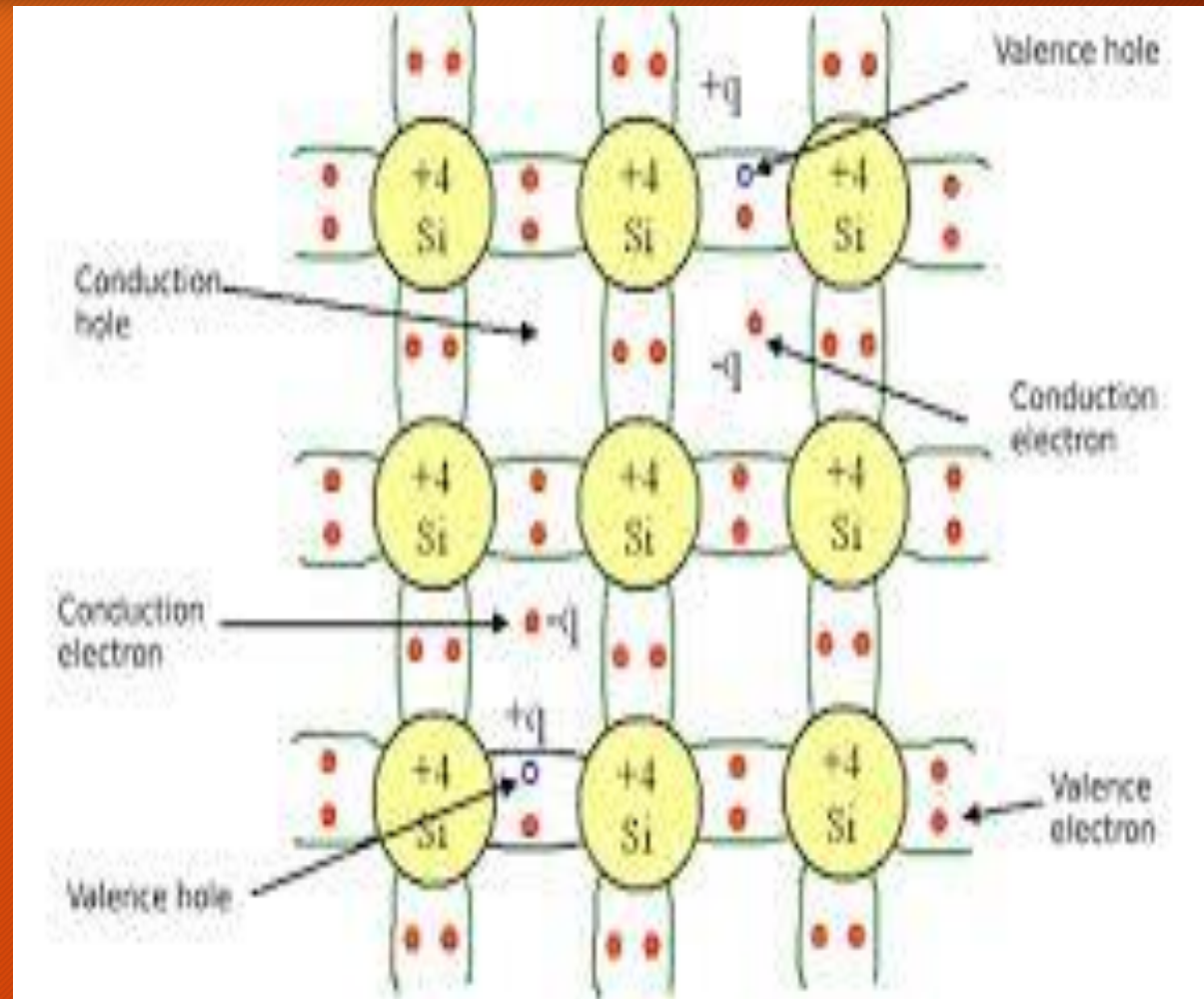
- A semiconductor is a substance, usually a solid chemical element or compound, that can conduct electricity under some conditions but not others, making it a good medium for the control of electrical current.
- **Two type of semiconductor :**
- Intrinsic semiconductor
- Extrinsic semiconductor

# Intrinsic semiconductor

- They are the pure semi conductor
- Free electrons are only due to natural causes
- Examples :
- Crystalline forms of pure silicon and germanium.



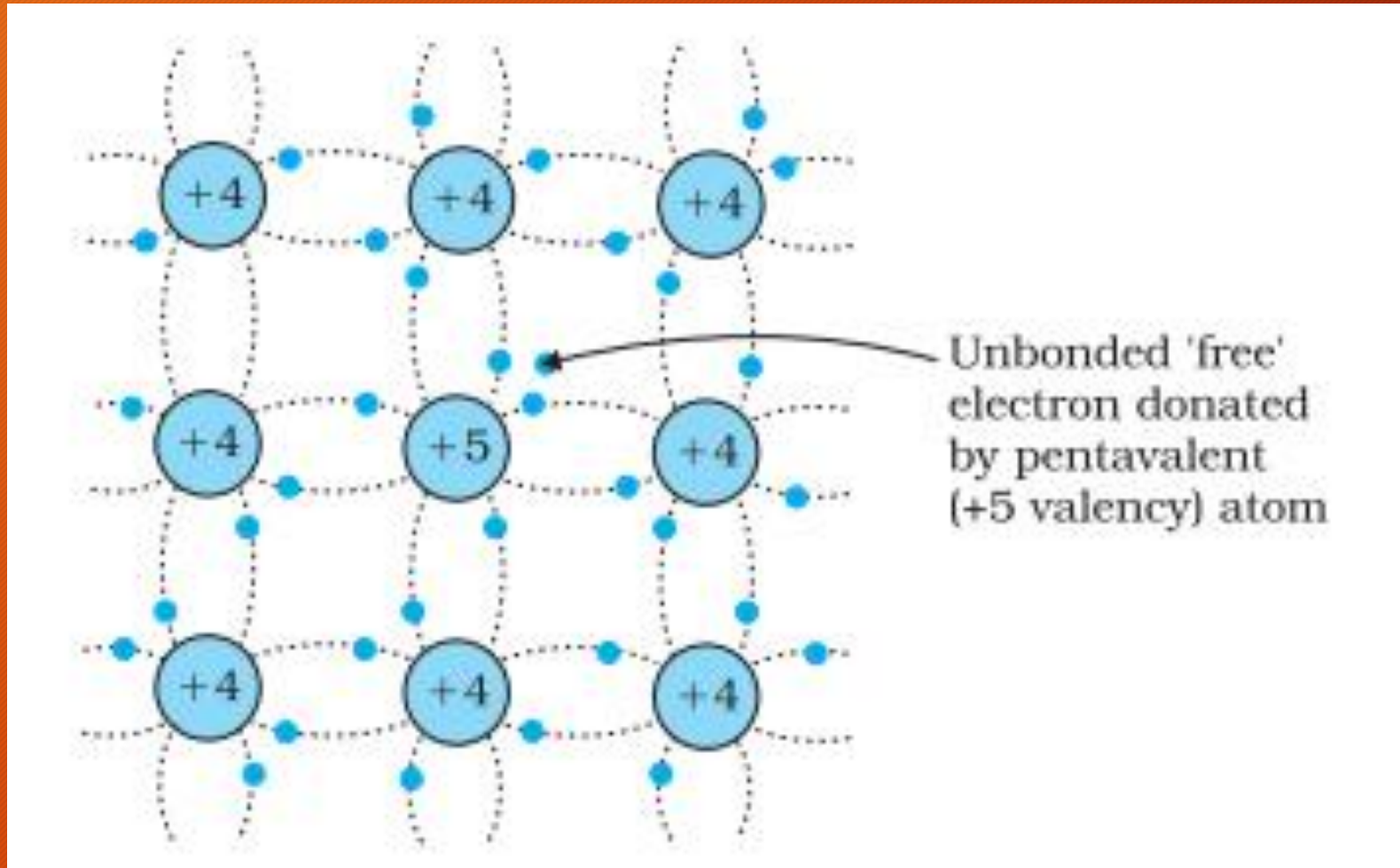
# Intrinsic semiconductor



# Extrinsic semiconductor :

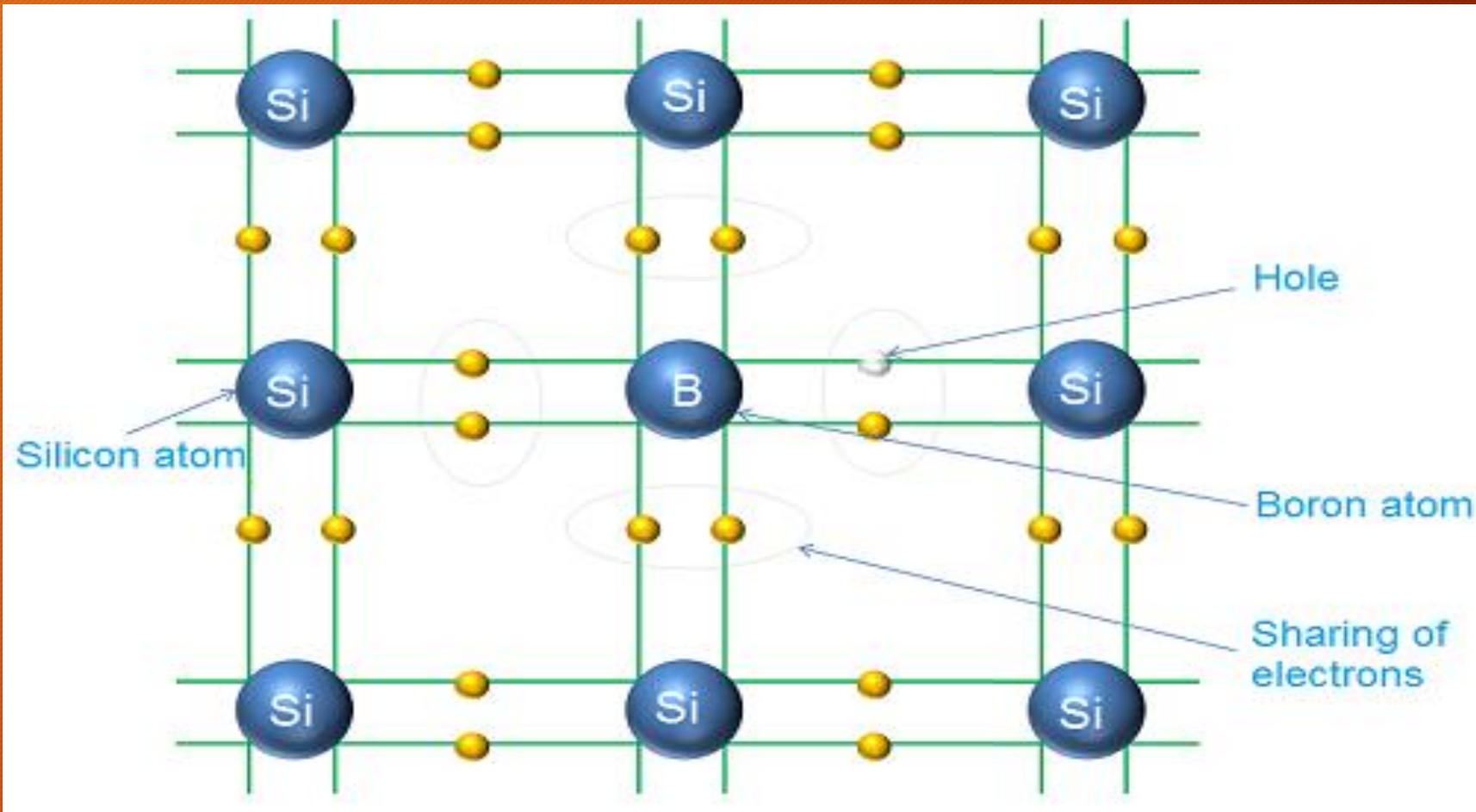
- Impurity atom are added.
- Two types of impurities are there.
- Pentavalent Impurity.
- Trivalent Impurity .
- Added 1 part in 10 million.
- Processing of adding impurity atom to pure semi conductors called Doping.

# Example of Pentavalent





# Example of Trivalent

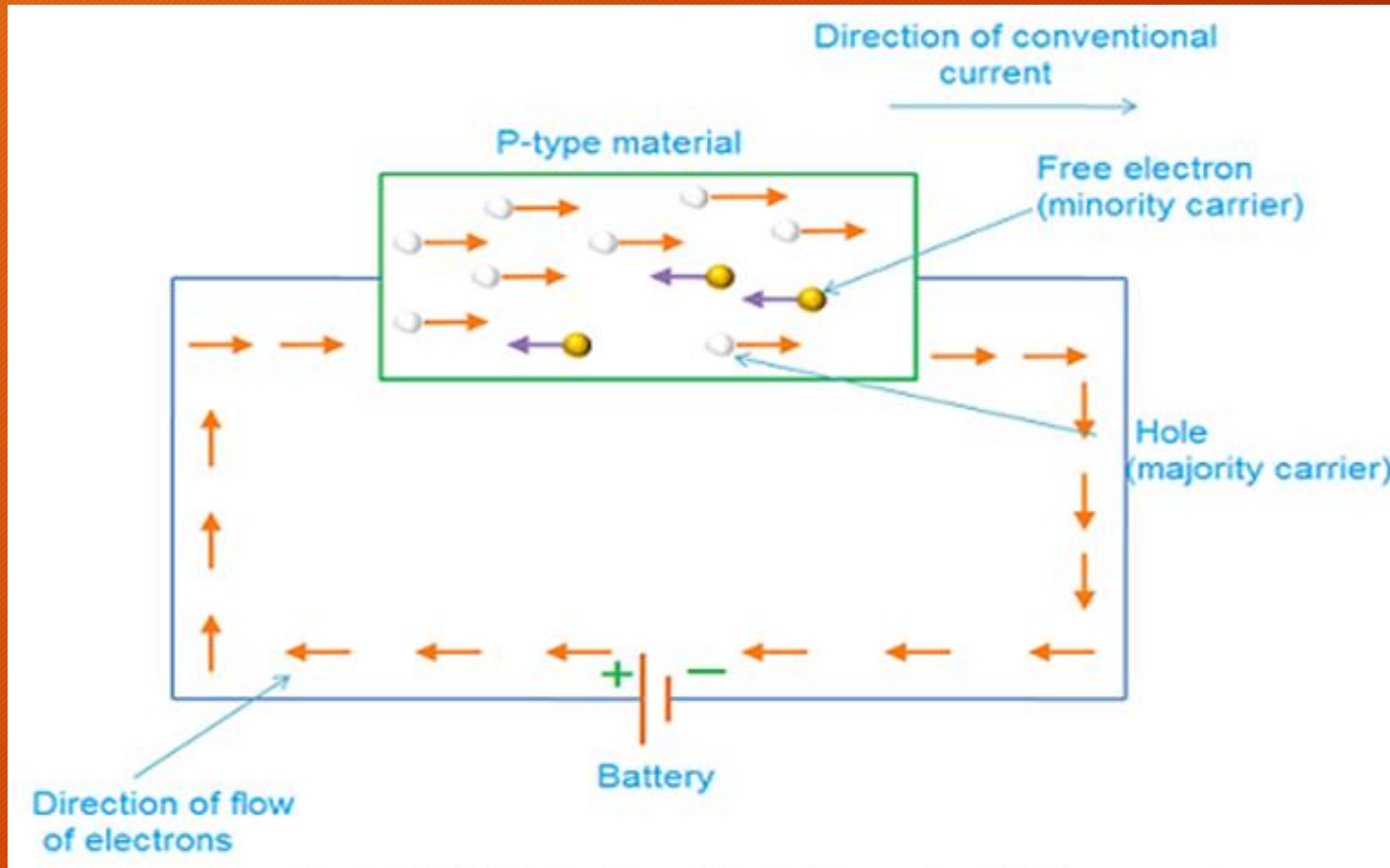


# P and N types semiconductor

- P type semiconductor :
- The flow of electron from positive to negative in it are called P type semiconductor.
- In this type Trivalent Impurity are added.



# P type semiconductor



# N type semiconductor:

- The flow of electron from negative to positive in it are known as N type semiconductor.
- In this type pentavalent Impurity are added.

# N type semiconductor:

