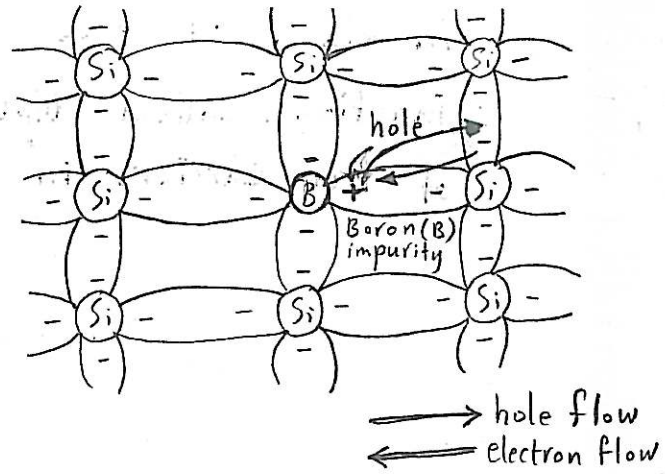
Fig (1-8)
Boron impurity in P-type material



* * The direction to be used is that of conventional flow, which is indicated by the direction of hole flow.

Majority and Minority Carriers:

* In an n-type material the electron is called the majority carrier and the hole the minority carrier.

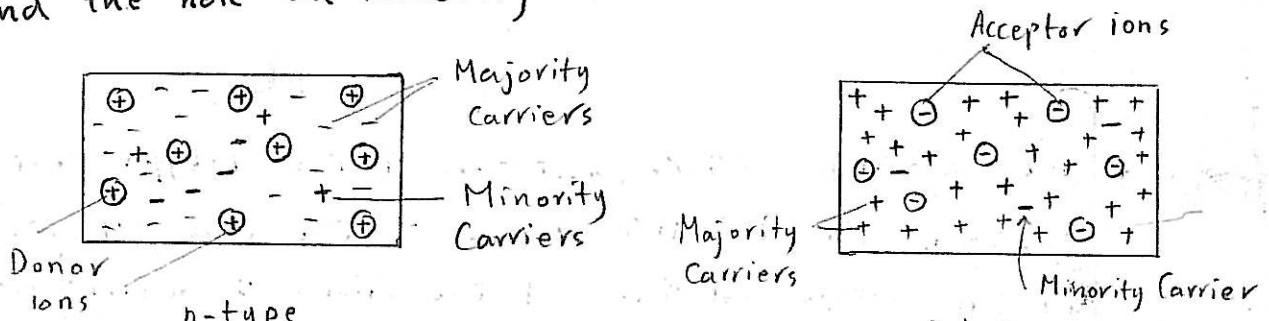


Fig (1-9)

a) n-type material b) P-type material

* In a P-type material the hole is the majority carrier and the electron is the minority carriers.

(5) SEMICONDUCTOR DIODE:

* The semiconductor diode, with applications too numerous to mention, is created by joining an n-type and a P-type material together.

No Applied Bias (V = 0v)

* At the instant the two materials are "joined" the electrons and the holes in the region of the junction will combine, resulting

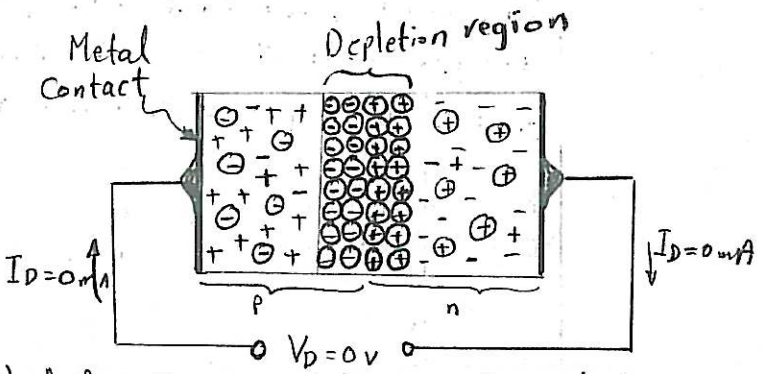


Fig (1-10) A P-n Junction with no external bias