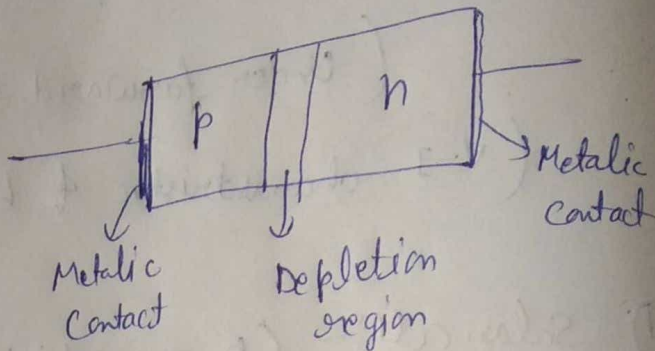
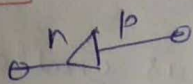
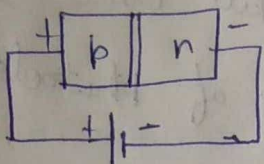


① p-n diode:

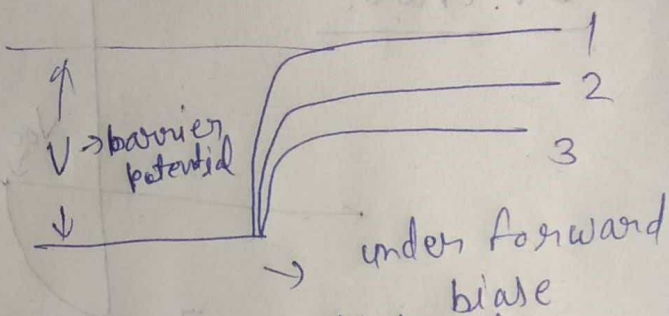


① Forward bias:



width decreases
current flow in mA

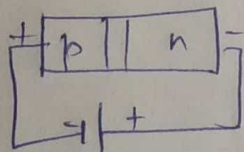
In reverse case it works as open circuit



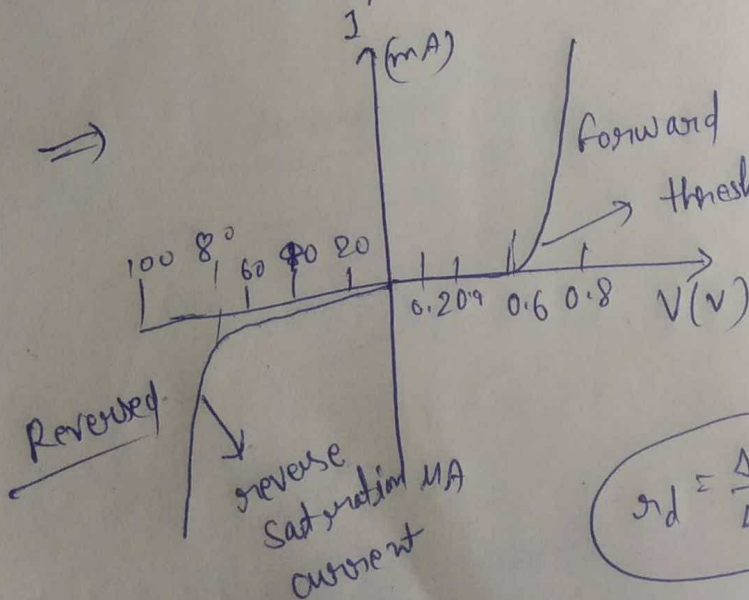
- 1) without potential
- 2) low battery voltage
- 3) High voltage battery

In forward case, for ideal diode, it works as short ckt

② Reversed bias:



depletion width increases
current flow in μA



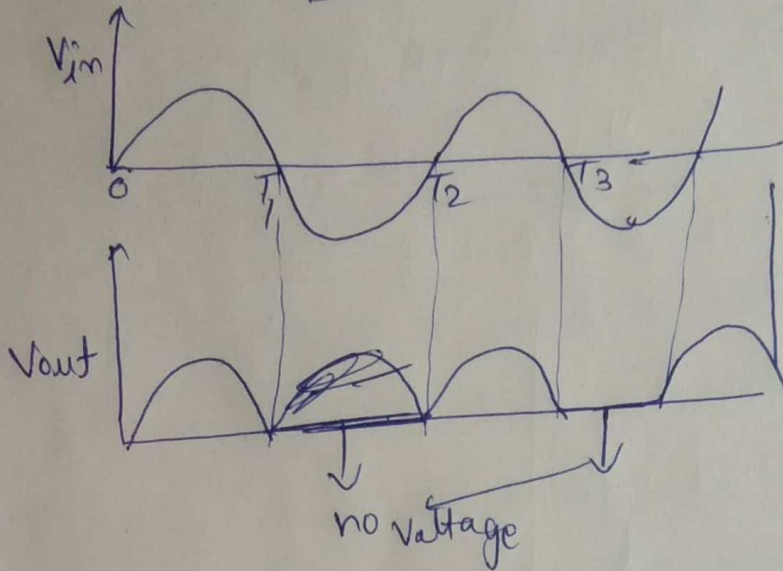
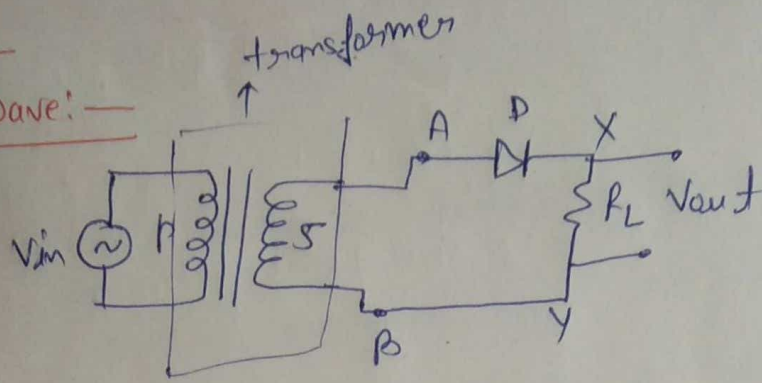
Forward threshold voltage circuit in voltage

For Ge $\sim 0.2V$
For Si $\sim 0.7V$

$r_d = \frac{\Delta V}{\Delta I}$ = dynamic resistance

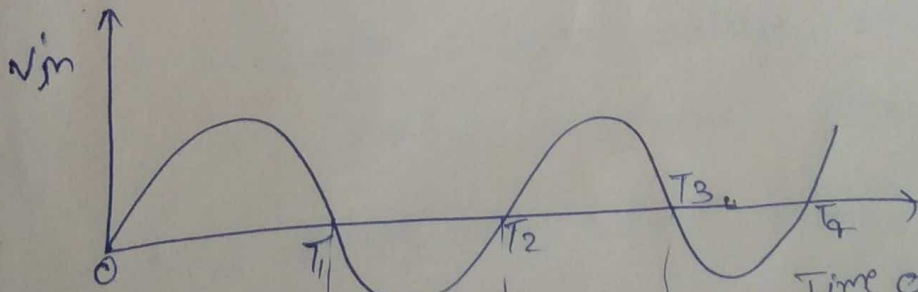
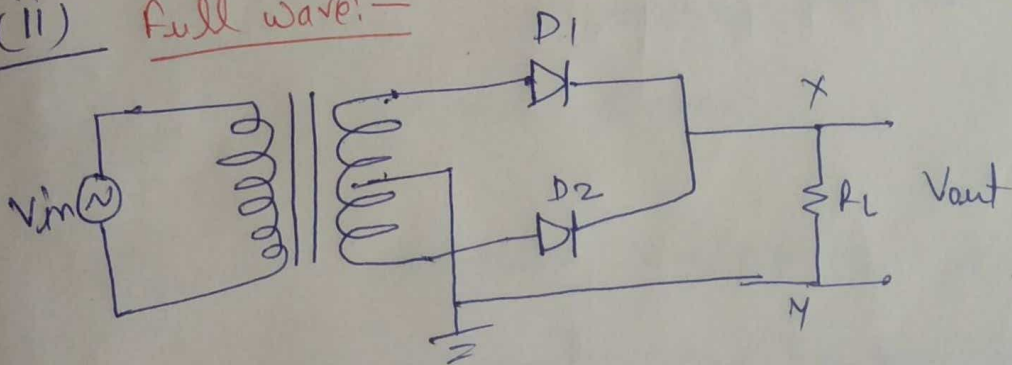
② Rectifier:—

i) Half wave:—



D \Rightarrow Forward
for $0 \rightarrow T_1$ (ON)
 \rightarrow short ckt
D \Rightarrow Reversed
for $T_1 \rightarrow T_2$
 \rightarrow open ckt (OFF)

(ii) Full wave:—



Time $0 - T_1$:—
 $\Rightarrow D_1 = \text{ON (F.B.)}$
 $D_2 = \text{OFF (R.B.)}$

Time $T_1 - T_2$:—
 $D_1 = \text{OFF (R.B.)}$
 $D_2 = \text{ON (F.B.)}$