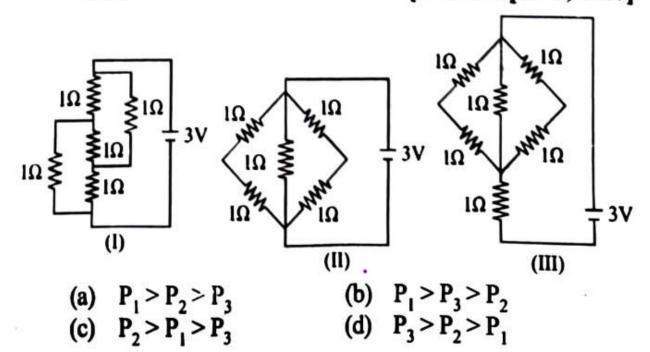**Q 01** The figure shows three circuits I, II and III which are connected to a 3V battery. If the powers dissipated by the configurations I, II and III are P_1, P_2 and P_3 respectively, then : **[Online April 9, 2017]**

(I)

(II)

(III)

(a) $P_1 > P_2 > P_3$
(c) $P_2 > P_1 > P_3$

(b) $P_1 > P_3 > P_2$
(d) $P_3 > P_2 > P_1$

(c) From the given circuit, net resistances
$R_I = 1\,\Omega$, $R_{II} = 1/2\,\Omega$, $R_{III} = 3/2\,\Omega$
It is clear that $R_3 > R_1 > R_2$
Hence, $P_3 < P_1 < P_2$
As Power $(P) = \dfrac{V^2}{R} \Rightarrow P \propto \dfrac{1}{R}$