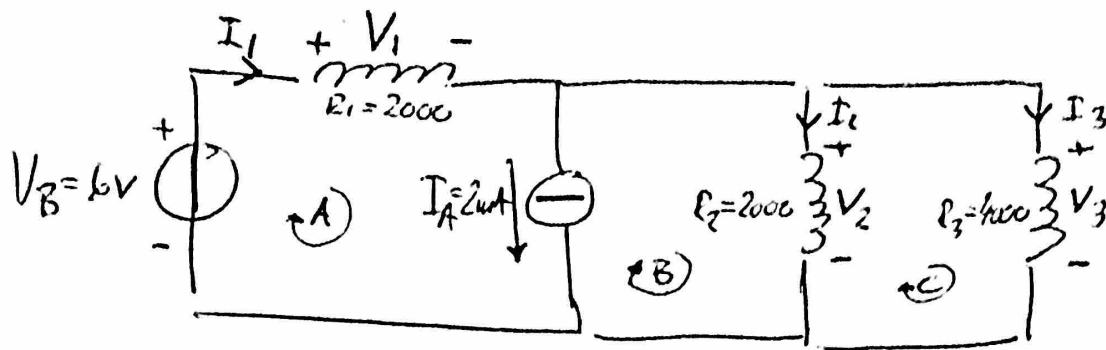


PROBLEM 4



$$\begin{aligned} \textcircled{A} \quad V_B - V_1 + V_A &= 0 \\ V_B + V_A &= V_1 \\ 6 + 4 &= V_1 \\ V_1 &= 10 \text{ V} \end{aligned}$$

$$\begin{aligned} \textcircled{B} \quad -V_2 + V_A &= 0 \\ V_A &= V_2 \\ V_A &= I_2 \cdot R_2 \\ V_A &= 0,002 \cdot 2000 \\ V_A &= 4 \text{ V} \end{aligned}$$

$$\begin{aligned} \textcircled{C} \quad -V_2 + V_3 &= 0 \\ V_2 &= V_3 \\ 4 &= V_3 \end{aligned}$$

$$\begin{aligned} I_1 &= \frac{V_1}{R_1} \\ I_1 &= \frac{10}{2000} \\ I_1 &= 0,005 \text{ A} \end{aligned}$$

$$\begin{aligned} I_2 &= \frac{V_2}{R_2} \\ I_2 &= \frac{4}{2000} \\ I_2 &= 0,002 \text{ A} \end{aligned}$$

$$\begin{aligned} I_3 &= \frac{V_3}{R_3} \\ I_3 &= \frac{4}{4000} \\ I_3 &= 0,001 \text{ A} \end{aligned}$$

$$\begin{aligned} \text{a) } P_1 &= V_1 \cdot I_1 \rightarrow 10 \cdot 0,001 = 0,001 \rightarrow 10 \mu\text{W} \\ P_2 &= V_2 \cdot I_2 \rightarrow 4 \cdot 0,002 = 0,008 \rightarrow 8 \mu\text{W} \\ P_3 &= V_3 \cdot I_3 \rightarrow 4 \cdot 0,001 = 0,004 \rightarrow 4 \mu\text{W} \end{aligned}$$

$$\begin{aligned} \text{b) } P_A &= V_A \cdot I_A \rightarrow 4 \cdot 0,002 = 0,008 \rightarrow 8 \mu\text{W} \\ P_B &= V_B \cdot I_1 \rightarrow 6 \cdot 0,001 = 0,006 \rightarrow 6 \mu\text{W} \end{aligned}$$