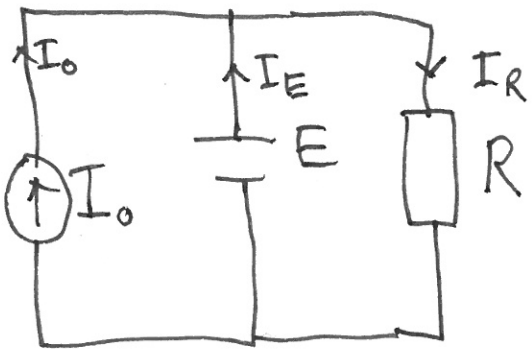
A.2.3)



$I_0 = 0.4$ A
$E = 10$ V
$R = 20\ \Omega$

KCL:

$$I_R = I_0 + I_E \Leftrightarrow \quad I_E = I_R - I_0 \quad (1)$$

Ohms lag:

$$E = R \cdot I_R \Rightarrow I_R = \frac{E}{R} = \frac{10}{20} = 0.5 \text{ A}$$

$$P_{tot} = I_R \cdot E = 0.5 \cdot 10 = 5 \text{ W}$$

$$P_{I_0} = I_0 \cdot E = 0.4 \cdot 10 = 4 \text{ W}$$

$$(1) \Rightarrow I_E = 0.5 - 0.4 = 0.1 \text{ A}$$

$$P_E = I_E \cdot E = 0.1 \cdot 10 = 1 \text{ W}$$

$P_{I_0} = 4$ W
$P_E = 1$ W