

### Sèrie 3

#### Primera part

#### Exercici 1

1 c Q2 d Q3 b Q4 b Q5 c

#### Exercici 2

a)  $P = \frac{V_R^2}{R} \Rightarrow R = 10\Omega$

b)  $V_R = RI \Rightarrow I = 10A$

c)  $V_2^2 = V_R^2 + (V_L - V_C)^2 \Rightarrow V_L = 256V$

d)  $V_L = X_L I \Rightarrow X_L = 25,6\Omega$ ;  $V_C = X_C I \Rightarrow X_C = 6\Omega$

#### OPCIÓ A

#### Exercici 3

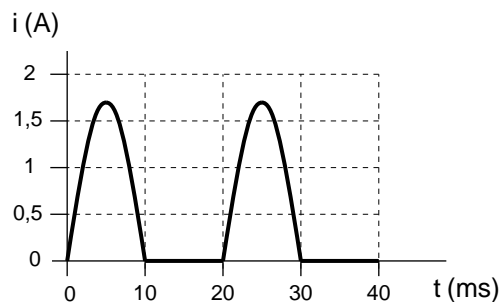
a)  $I_2 = -\frac{U_2}{R_2} = -8A$

b)  $U_1 + U_2 = (R_1 + R_3)I_1 \Rightarrow I_1 = 50A$

c)  $P_1 = U_1 I_1 = 6kW$ ;  $P_2 = U_2 (I_1 - I_2) = 4,64kW$

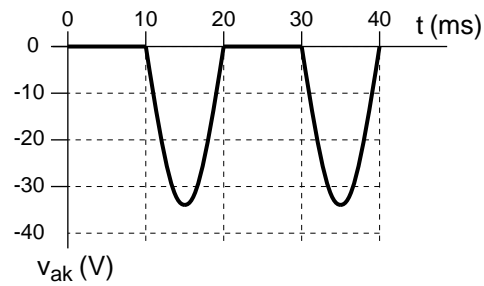
#### Exercici 4

a)  $I_{\max} = \frac{\sqrt{2}U}{R} = 1,697A$



$$b) P = \frac{1}{2} \frac{U^2}{R} = 14,4 \text{ W}$$

$$c) v_{\text{màx}} = \sqrt{2} U = 33,94 \text{ V}$$



## OPCIÓ B

## Exercici 3

$$a) Z = \sqrt{R^2 + X^2} = 10,77 \Omega; I_b = \frac{U}{Z} = 37,14 \text{ A}$$

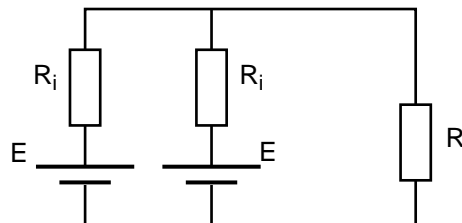
$$b) I_L = \sqrt{3} I_b = 64,33 \text{ A}$$

$$c) S = \sqrt{3} U I_L = 44,57 \text{ kVA}$$

$$d) P = 3 R I_b^2 = 41,38 \text{ kW}$$

## Exercici 4

a)



$$b) R_{\text{eq}} = \frac{R_i}{2} = 0,25 \Omega; E = R_{\text{eq}} I + R I \Rightarrow I = 1,171 \text{ A}$$

$$c) P = R I^2 = 13,71 \text{ W}$$