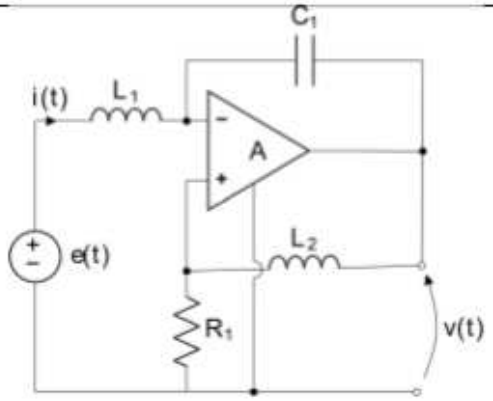
ELETTROTECNICA AA 2019-2020

Ex 14.1 TE 26-6-2019 E3



Calcolare $v(t), i(t)$ e la potenza assorbita $p_A(t)$ dall'amplificatore operazionale che opera in regime sinusoidale.

$L_1 = 1H$

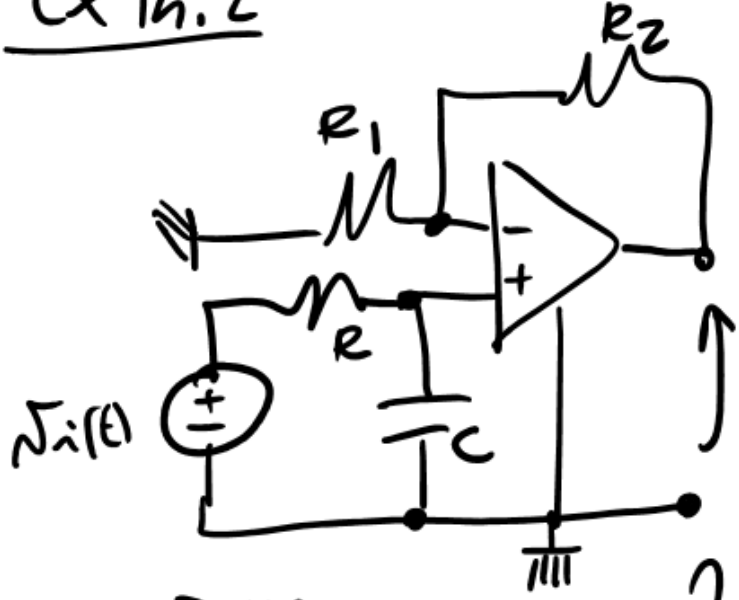
$L_2 = 2H$

$R_1 = 2\Omega$

$C_1 = 1\mathrm{F}$

$e(t) = \sin(t)$

Ex 14.2



Hp

- $R_1 = 1k\Omega$
- $R_2 = 10k\Omega$
- $R = 100\Omega$
- $C = 100nF$
- op Amp IDEALE

$v_i(t) = 5\,G_2(\omega t + \frac{\pi}{3})$ [V]

$\rightarrow v_o(t)$ | $\omega_1 = 100$ rad/s ? $\omega_2 = 100k$ rad/s ? $\omega_3 = 100M$ rad/s ?

DI CHE FILTRO SI TRATTA ?

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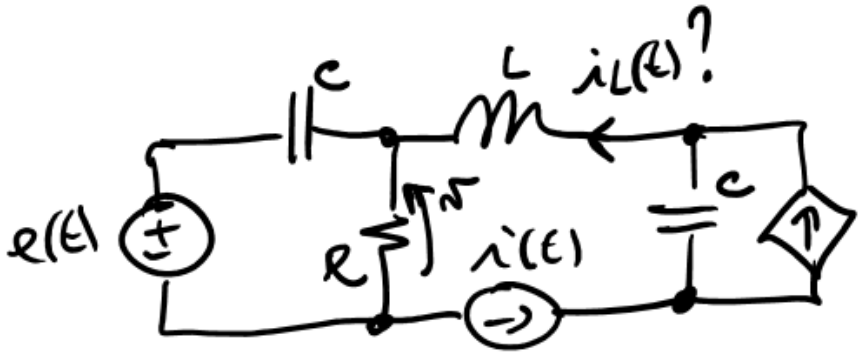
Ex 14.3

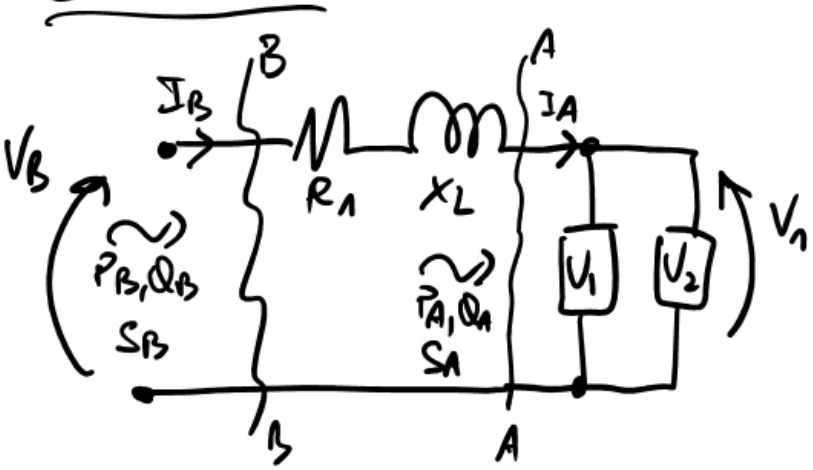


Hp
- C = 1 F
- L = 1 H
- R = 1 Ω
- α = 1 S

- $e(t) = 5 \cos 100t$ [V] $\quad \omega_1 = 100$ rad/s
- $i(t) = 3 \cos 400t$ [A] $\quad \omega_2 = 400$ rad/s

$\Rightarrow i_L(t)$?

Ex 14.4



Hp
- $R_1 = 4\ \Omega$
- $X_L = 8\ \Omega$
- $f = 50$ Hz

U_1: $P_1 = 20$ kW; $Q_1 = 30$ kVAR; $V_1 = 1000$ Veff.

U_2: $P_2 = 20$ kW; $\cos\varphi_2 = 1$; $V_2 = V_1 = 1000$ Veff.

$\Rightarrow V_B$? [VEFF] ; Rifasare affinché $\cos\varphi_{2RIF} = 0{,}95$ (induttivo)