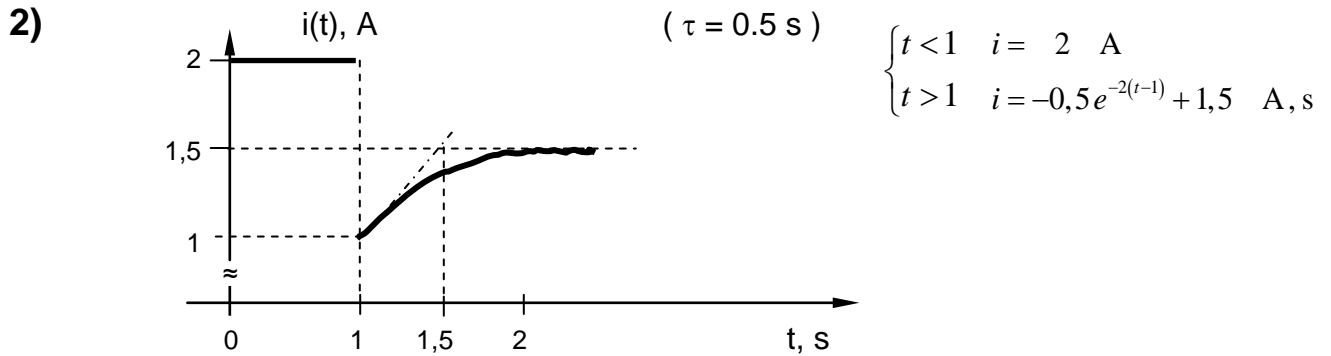


**Elettrotecnica I - II – Esame del 18 - 02- 2010**  
**Soluzioni**

1)  $V_{eq} = 5 \text{ V}$  ;  $R_{eq} = 30 \Omega$

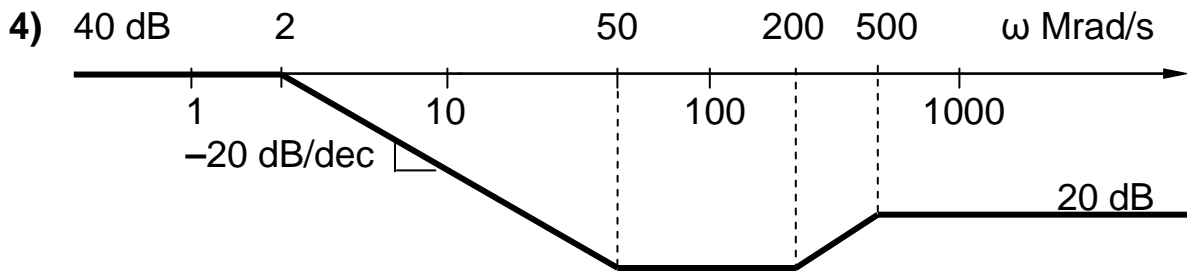


3) Funzione di trasmissione:

$$\frac{V_u}{V_e} = \frac{G_1 G_2}{s^2 C_1 C_2 + s C_2 (G_1 + G_2) + G_1 G_2} = \frac{1}{s^2 + 2s + 1}$$

Valore efficace dell'uscita (si ottiene ponendo  $s = j\omega = j$ ):

$$|V_u| = |V_e| \left| \frac{1}{-1 + 2j + 1} \right| = \frac{1}{2} |V_e| = \frac{5}{2\sqrt{2}} = 1.77 \text{ V}$$



5)

$$f_0 = \frac{1}{2\pi\sqrt{LC}} = 22,51 \text{ kHz}; \quad Q = \frac{R_p}{\omega_0 L} = 141,4$$