Capítulo 10 - Processamento de Sinais.

Perguntas:

1) (Opção B).
2) (Opção D).
3) (Opção D)
4) (Opção A).
5) (Opção

1) $3\ddot{V} - 2\dot{V} + V = 2\dot{V}_e \Rightarrow 3s^2\tilde{V} - 2s\tilde{V} + \tilde{V} = 2s\tilde{V}_e \Leftrightarrow$
$\Leftrightarrow \tilde{V}(3s^2 - 2s + 1) = 2s\tilde{V}_e \Leftrightarrow \frac{\tilde{V}}{\tilde{V}_e} = \frac{2s}{3s^2 - 2s + 1}$

2) $\tilde{V}_e = \frac{1}{s+1}$ $\tilde{V}(s) = H(s)\tilde{V}_e = \left(\frac{s+10}{2-s}\right)\left(\frac{1}{s+1}\right) = \frac{s+10}{(2-s)(s+1)}$

$V = 3e^{-t} - 4e^{2t}$

3) $(\text{no máxima})_R$

4) $Z_1 = \frac{Z_R Z_C}{Z_R + Z_C} = \frac{}{C\left(\frac{1}{Cs} + R\right)s}$ $Z = \frac{Z_1 Z_L}{Z_1 + Z_L} = \frac{LRs}{CLRs^2 + Ls + R}$

5) $H(s) = \frac{\tilde{V}}{\tilde{V}_e} = \frac{2{,}5\left(\frac{1}{s} - \frac{1}{s+2}\right)}{5}$ $\tilde{V} = \tilde{V}_e H(s) \Leftrightarrow$

$\Leftrightarrow \tilde{V} = \frac{5}{s+1} \times \frac{2{,}5\left(\frac{1}{s} - \frac{1}{s+2}\right)}{5} =$