Universidad de Granada
Departamento de Electrónica y Tecnología de Computadores

ANÁLISIS DE CIRCUITOS

1º Ingeniería en Telecomunicación
Soluciones de la 5ª Relación de problemas

1. a) $V_T = V_s RC_1 s/(1+RC_1 s)$, $Z_T = 1/C_2 s + R/(1+RC_1 s)$

   b) $V_T = V_s(R^2C^2s^2+2RCs+1)/(R^2C^2s^2+3RCs+1)$, $Z_T = R(2RCs+1)/(R^2C^2s^2+3RCs+1)$

2. $f_c = 0.35/t_r$

3. Oscilante amortiguada, con f = 1.584 MHz y τ = 1 μs

4. $v_0(t) = t/RC - 0.5(1-\exp(-t/0.6RC))$

5.

6.

7. $\omega_{max} = 10^3\ s^{-1}$, T_{max} = -9.54 dB

8.

9.

10. $(y) = (z)^{-1}$

11. z: h_{11}, 0, $-h_{21}/h_{22}$, $1/h_{22}$; y: $1/h_{11}$, 0, h_{21}/h_{11}, h_{22}; g: $1/h_{11}$, 0, $-h_{21}/h_{11}h_{22}$, $1/h_{22}$

12. Y = 1/3Z

13. a) $v_s z_{21}/(R_s+z_{11})$, $(\Delta_z+R_s z_{22})/(z_{11}+R_s)$;b) $-y_{21}v_s/(y_{22}+R_s\Delta_y)$, $(1+R_s y_{11})/(y_{22}+R_s\Delta_y)$; c) $-h_{21}v_s/\Delta_h$, h_{11}/Δ_h