

TS13

7)



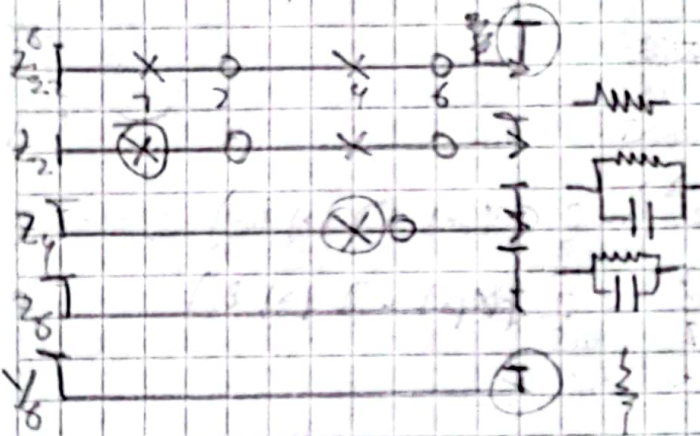
$$\frac{-I_2}{I_1} = H \frac{s^2 + 5s + 4}{s^2 + 8s + 12}$$

$$Z_{21} = 6H$$

$$V_2 = Z_{21} I_1 + Z_{22} I_2 \rightarrow \frac{-I_2}{I_1} = \frac{Z_{21}}{Z_{22}} = \frac{6H}{Z_{22}} \frac{s^2 + 5s + 4}{s^2 + 8s + 12}$$

$$\rightarrow Z_{22} = 6 \frac{s^2 + 8s + 12}{s^2 + 5s + 4} = 6 \frac{(s+2)(s+6)}{(s+1)(s+4)} \rightarrow Z_{22} \text{ alternancia } \checkmark$$

$$Z_{22} \text{ : Para } \omega=0 \text{ : } Z_{22}(0) > Z_{22}(\infty) \text{ : } Z_{22}(0) = 72 \text{ : } Z_{22}(\infty) = 6$$



Retorno formalmente $R_L = 7$ para que

la función lo contemple

$$Z_2 = Z_{22} - 1 = \frac{6(s^2 + 8s + 12)}{s^2 + 5s + 4} - 1$$

$$Z_2 = \frac{6s^2 + 48s + 72 - s^2 - 5s - 4}{s^2 + 5s + 4}$$

$$Z_2 = \frac{5s^2 + 43s + 68}{s^2 + 5s + 4}$$

$$k_1 = \lim_{s \rightarrow -1} (s+1) \frac{5s^2 + 43s + 68}{(s+4)(s+1)} = 70$$

$$Z_4 = \frac{5s^2 + 43s + 68}{(s+4)(s+1)} = \frac{70(s+4)}{(s+1)(s+4)} = \frac{70}{s+1} = \frac{1(s+1)}{(s+1)(s+4)} \cdot 70$$

$$k_2 = \lim_{s \rightarrow -4} (s+4) \frac{5s^2 + 43s + 68}{(s+4)(s+1)} = 8$$

$$Z_6 = \frac{5s^2 + 43s + 68}{s+4} = \frac{8(s+4)}{s+4} = 8$$

$$Y_{R6} = \frac{1}{5}$$

Retorno formalmente función $R = \frac{1}{5}$

