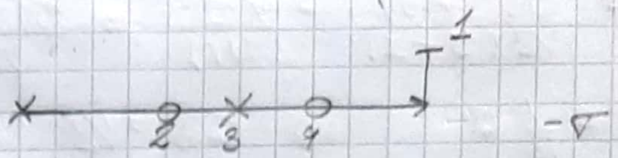
2)

$$T = \frac{V_2}{V_1}\Big|_{I_2=0} = K\,\frac{(s+1)}{(s+2)(s+4)} = \frac{Z_{21}}{Z_{11}} = -\frac{Y_{21}}{Y_{22}}$$

- Excito con V_1 $\Rightarrow$ 1° comp en serie
- $I_2 = 0$ tengo que terminar en derivación

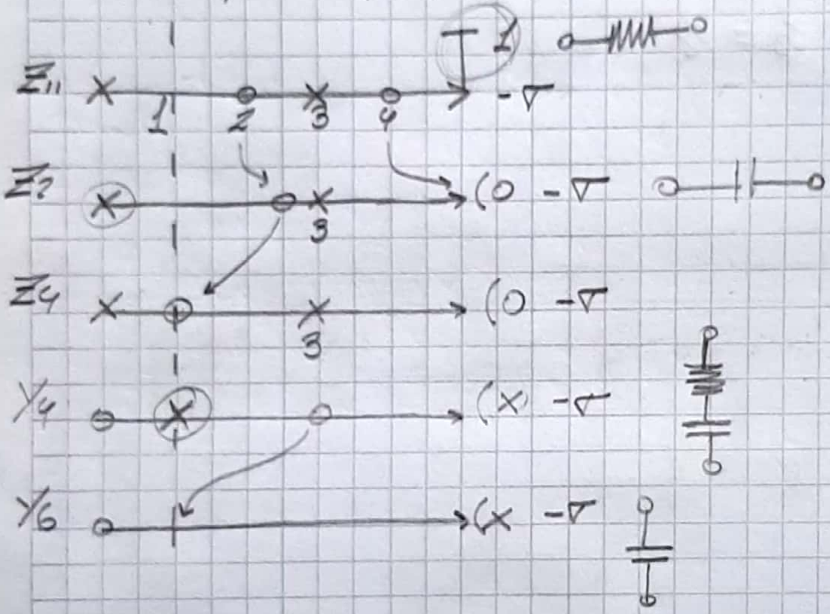
$$Z_{11} = \frac{(s+2)(s+4)}{s(s+3)}$$

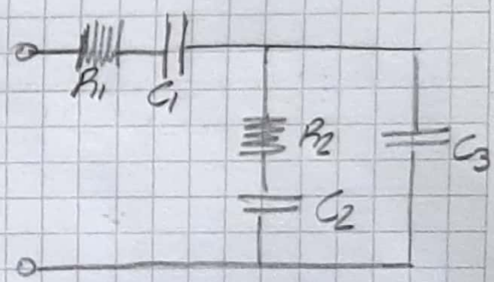


$$Z_{21} = \frac{(s+1)}{s(s+3)}$$

El valor en cero tiene que ser mayor que el valor en inf. (Zrc)

↳ impone que tengo que hacer remociones en -1 y en inf





$$Z_2\Big|_{s\to\infty} = Z_{11} - R_1 = 0 \qquad \lim_{s\to\infty} Z_{11} = 1 \;\Rightarrow\; R_1 = 1$$

$$Z_2 = \frac{(s+2)(s+4)}{s(s+3)} - 1 = \frac{\cancel{s^2} + 6s + 8 - \cancel{s^2} - 3s}{s(s+3)}$$

$$Z_2 = \frac{3s+8}{s(s+3)} = \frac{3(s+8/3)}{s(s+3)}$$

$$Z_4\Big|_{s=-1} = Z_2 - \frac{k_0}{s} = 0 \qquad k_0 = \lim_{s\to -1} Z_2\, s = 3\,\frac{(-1+8/3)}{-1+3} = \frac{5}{2}$$

$$Z_4 = \frac{3(s+8/3)}{s(s+3)} - \frac{5/2}{s} = \frac{3(s+8/3) - 5/2\,(s+3)}{s(s+3)} \qquad C_1 = 2/5$$

$$Z_4 = \frac{3s+8 - 5/2\,s - 15/2}{s(s+3)} = \frac{1/2\,(s+1)}{s(s+3)}$$

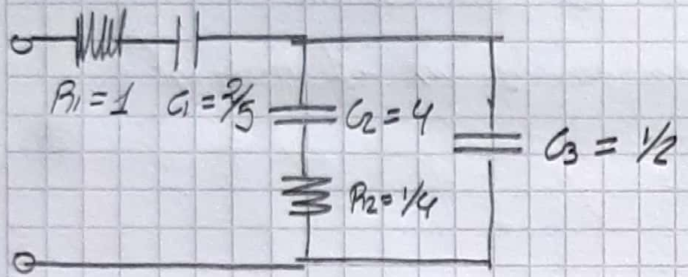
$$Y_4 = \frac{s(s+3)}{\frac{1}{2}(s+1)} \quad ; \quad Y_6 = Y_4 - \frac{R_1 s}{s+1}$$

$$\lim_{s \to -1} Y_4 \frac{(s+1)}{s} = \frac{(-1+3)}{\frac{1}{2}} = 4 \quad ; \quad Y_3 = \frac{1}{\frac{1}{R_1} + \frac{1}{\frac{R_1 s}{1}}}$$

$$Y_6 = \frac{s(s+3)}{\frac{1}{2}(s+1)} - \frac{4s}{(s+1)} = \frac{s(s+3) - 2s}{\frac{1}{2}(s+1)} = \frac{s\cancel{(s+1)}}{\frac{1}{2}\cancel{(s+1)}}$$

$$Y_6 = \frac{1}{2} s \quad \Rightarrow \quad C_3 = \frac{1}{2}$$

$$R_2 = \frac{1}{R_1} = \frac{1}{4} \quad ; \quad C_2 = R_1 = 4$$



NOTA