

Tarea #8

Daniel Alemán Saborio

Tarea N°8

Daniel Alemán Saborio

1) Valor final ante un escalon.

$$G(s) = \frac{1}{(s+4)(s+6)} = \lim_{s \rightarrow 0} = \frac{1}{4+6} = \frac{1}{10} = 0.1 //$$

$$\text{error} = \frac{1}{1+G(s)} = 0.96$$

$$\text{error} = \frac{1}{1+k_p} \Rightarrow 0.96 = \frac{1}{1+k_p}$$

$$0.96 k_p = 1 - 0.96$$

$$0.96 k_p = 0.04$$

$$k_p = 0.0416$$

$$\text{error} = \text{Entrada} - \text{Valor final}$$

$$= 1 - \text{Valor final}$$

$$\Rightarrow \text{Valor final} = 1.20 \cdot 0.1$$

$$= 1 - \text{Valor final requerido}$$

$$= 0.18$$

$$0.676 = \frac{1}{1+k_p}$$

$$0.676 + 0.676 k_p = 1$$

$$k_p = \frac{1 - 0.676}{0.676} = 0.48$$

$$\text{error Modificado} = \frac{z}{p} \cdot k_{\text{inicial}}$$

$$\frac{0.18}{0.0416} = 11.54$$

$$\Rightarrow \frac{z + 11.53}{s + 1} //$$