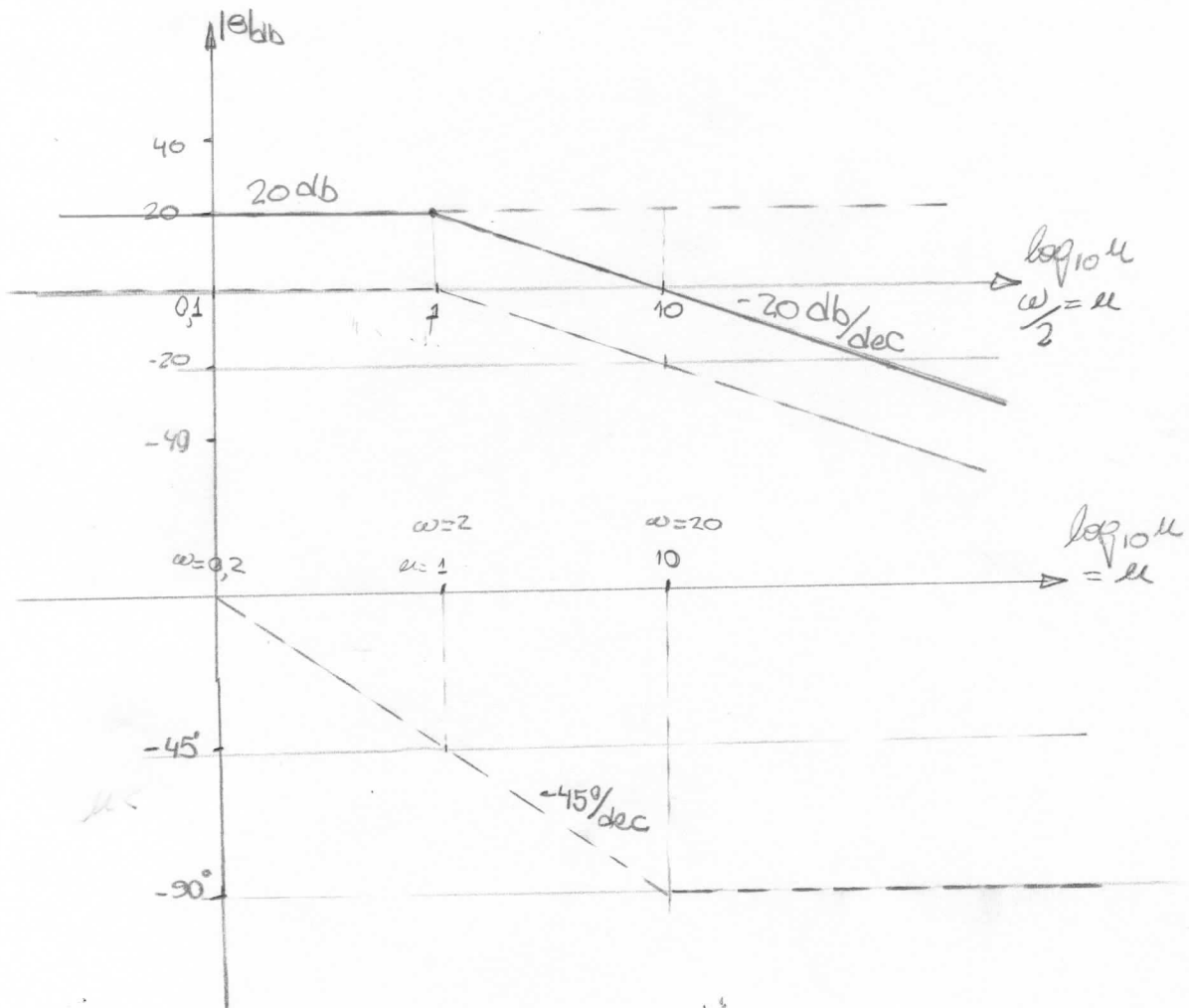


$$G(s) = \frac{20}{s+2}$$

$$G(s) = \frac{10}{\frac{s}{2} + 1} \Rightarrow G(j\omega) = \frac{10}{\sqrt{\frac{\omega}{2} + 1}} = \frac{10}{\sqrt{\mu + 1}} \quad \mu = \frac{\omega}{2}$$

$$|G(j\omega)|_{db} = 20 \log 10 - 20 \log \sqrt{\mu^2 + 1} = 20 \text{ db} - 20 \log \sqrt{\mu^2 + 1}$$



$$\mu \ll 1 \quad | \quad |_{db} = -20 \log 1 = 0 \text{ db}$$

$$\mu \gg 1 \quad | \quad |_{db} = -20 \log \mu \quad \left\{ \begin{array}{l} \mu = 10 \Rightarrow |_{db} = -20 \log 10 = -20 \text{ db} \end{array} \right.$$

Calculo de la Fase

$$\varphi = \tan^{-1} \frac{0}{10} = 0^\circ$$

$$\varphi = -\tan^{-1} \mu \Rightarrow \begin{array}{l} P/\mu \ll 1 \quad (\omega \ll 2) \Rightarrow \varphi = 0^\circ \\ P/\mu = 1 \quad (\omega = 2) \Rightarrow \varphi = -45^\circ \\ P/\mu \gg 1 \quad (\omega \gg 2) \Rightarrow \varphi = -90^\circ \end{array}$$