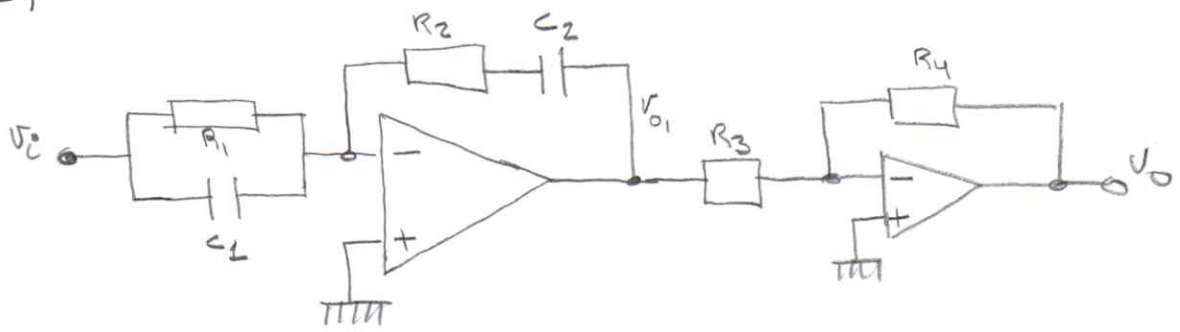
Modulacao de Sistema

1 e)



> tensão num condensador
> $\frac{1}{C}\int_0^T i(t)\,dt$

$$\begin{cases} V_{o1} = \frac{1}{C_2}\int_0^T i(t)\,dt + R_2\, i(t) \\ i(t) = \frac{V_i}{R_1} + C_1 \frac{d}{dt} V_i(t) \end{cases} \qquad \begin{cases} V_{o1(s)} = \frac{1}{C_2}\,\frac{i(s)}{s} + R_2\, i(s) \\ i(s) = \frac{V_{i(s)}}{R_1} + C_1\, s\, V(s) \end{cases}$$

$$V_{o1(s)} = V_{i(s)}\left(\frac{1}{R_1 s C_2} + \frac{C_1 s}{s C_2} + \frac{R_2}{R_1} + R_2 C_1 s\right)$$

$$\frac{V_{o1(t)}}{R_3} = \frac{-V_{o(t)}}{R_4}$$

$$\frac{V_{o(s)}}{V_{i(s)}} = -\frac{R_4}{R_3}\left(\frac{1}{R_1 s C_2} + \frac{C_1 s}{s C_2} + \frac{R_2}{R_1} + R_2 C_1 s\right)$$