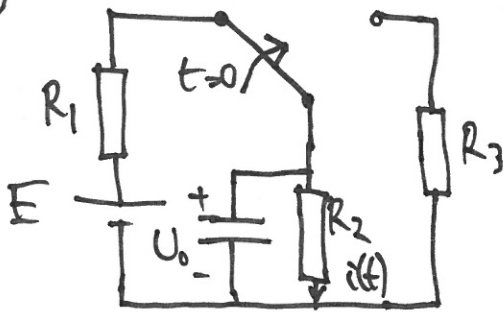


C-16)



$$R_1 = R_2 = R_3 = 500 \, \Omega$$

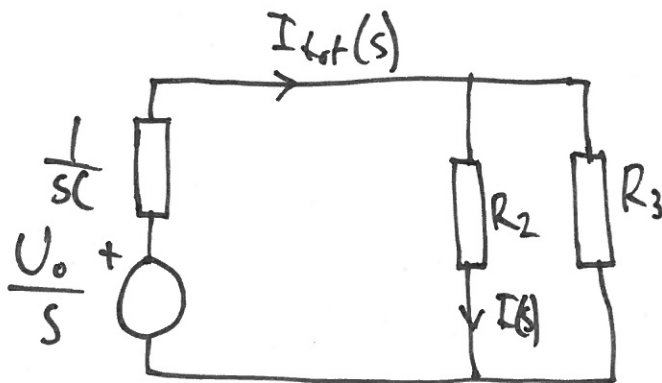
$$C = 1 \, \mu\text{F}$$

$$E = 100 \, \text{V}$$

Begynnelse spänning i kondensatorn:

$$U_0 = E \cdot \frac{R}{R+R} = 50 \, \text{V}$$

Operatorschema för $t > 0$



$$I(s) = \frac{1}{2} \cdot I_{\text{tot}}(s)$$

$$I_{\text{tot}}(s) = \frac{\frac{U_0}{s}}{\frac{1}{sC} + \frac{R_2 \cdot R_3}{R_2 + R_3}}$$

$$= U_0 \cdot \frac{1}{\frac{1}{C} + \frac{sR}{2}} = U_0 \cdot \frac{2}{R} \cdot \frac{1}{\frac{2}{RC} + s}$$

$$= 0.20 \cdot \frac{1}{s+4} \quad I(s) = I_{\text{tot}}(s)/2 = 0.1 \cdot \frac{1}{s+4}$$

$$\Rightarrow i(t) = 0.1 e^{-4t}$$

$$\Rightarrow i(1) = 0.1 \cdot e^{-4} = 1.8 \, \text{mA}$$