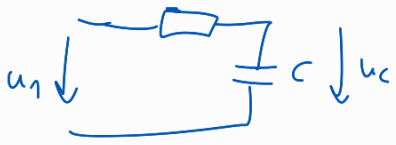


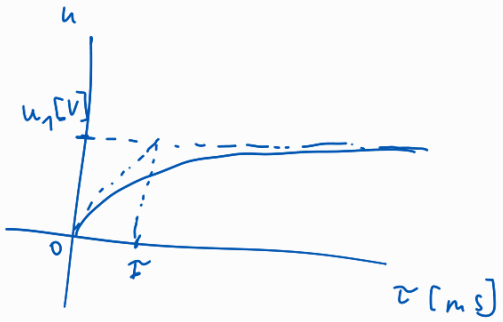
$u_c(0) = 0$

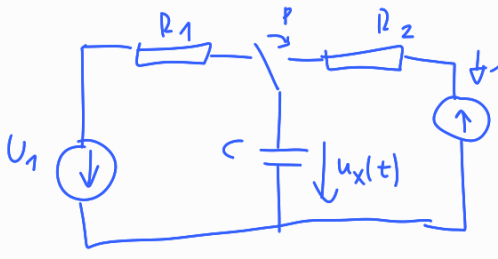
$u_c(\infty) = u_1$

$u_c(t) = k_1 e^{-\frac{t}{\tau}} + k_2$

$\tau = RC = 10^{-3}$

$u_c(t) = -u_1 e^{-\frac{t}{RC}} + u_1 = -5 e^{-10^3 t} + 5$

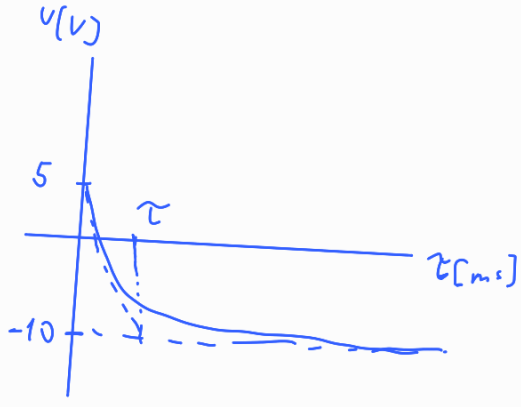




$u_c(0) = U_1$

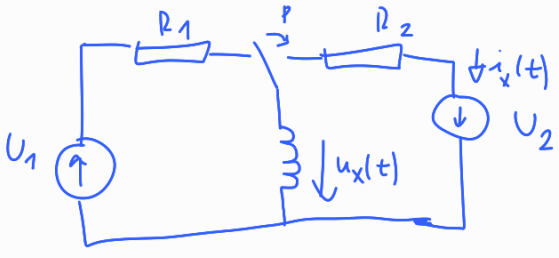
$u_c(\infty) = -U_2$

$\tau = R_2 C = \frac{1}{500}$



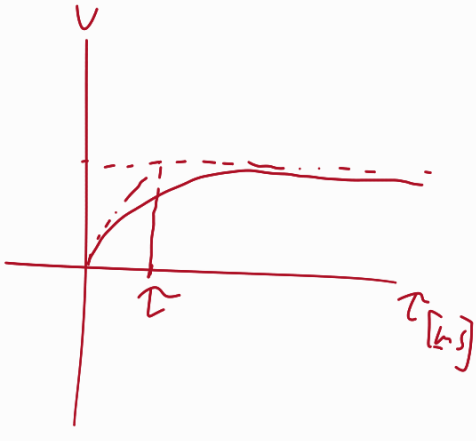
$u_x(t) = (U_1 + U_2) e^{-\frac{t}{\tau}} - U_2 = 15 e^{-500t} - 10$

$i_x(t) = -C \frac{d u_x(t)}{dt} = -10^{-6} \cdot 15 \cdot (-500) \cdot e^{-500t} = 7{,}5 \cdot 10^{-3} e^{-500t}$ A



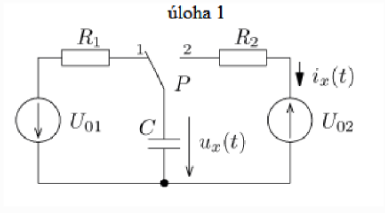
$i_x(0) = 0$

$i_x(\infty) = \frac{U_2}{R_2}$



$i_x(t) = -\frac{U_1}{R_2} e^{-\frac{t}{\tau}} + \frac{U_2}{R_2}$ $\quad \tau = \frac{L}{R_2}$

$u_x(t) = L \frac{d i_x(t)}{dt} = \frac{U_2}{R_2} \cdot \left(-\frac{R_2}{L}\right) e^{-\frac{t}{\tau}} = \frac{U_1}{L} e^{-\frac{t}{\tau}}$

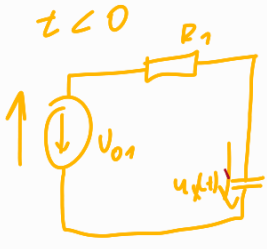


$u_c(t) = k_1 e^{-\frac{t}{\tau}} + k_2$

$k_1 = u_c(0) - u_c(\infty)$

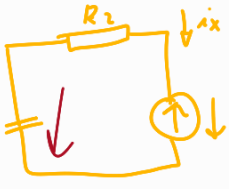
$k_2 = u_c(\infty)$

$t < 0$



$u_c(0) = u_1$

$t > 0$



$u_c(0) = u_1$

$u_c(t) = (u_1 + u_2) e^{-\frac{t}{(R_1 + R_2)C}} + u_2$ $\quad \tau = C \cdot R_1$