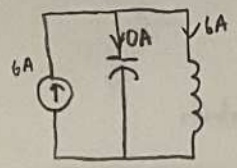
Yusuf Safa Köksal 21011002

a) $t=(0^-)$



$i_L(0^-) = i_L(0^+) = 6A$

$V_c(0^-) = V_c(0^+) = 0$

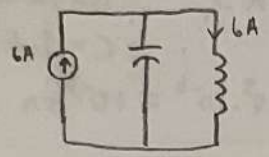
$i_R(0^-) = i_R(0^+) = 0$

$V_L(0^-) = V_L(0^+) = 0$

$i_c(0^-) = i_c(0^+) = 0$

$\frac{dV_c(0^+)}{dt} = 0\ V/sn$

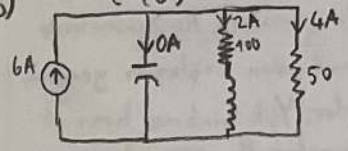
$t=0^+$



$i_c = C \cdot \frac{dV_c}{dt}$

$\frac{dV_c}{dt} = \frac{i_c}{C} = \frac{0}{0,01} = 0$

b) $t=(0^-)$



$i_L(0^-) = i_L(0^+) = 2A$

$V_c(0^-) = V_c(0^+) = 200V$

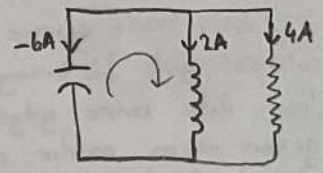
$i_R(0^-) = i_R(0^+) = 4A$

$V_L(0^+) = 200V$

$i_c(0^+) = -6A$

$\frac{dV_c(0^+)}{dt} = -600\ V/sn$

$t=(0^+)$



$4.50\Omega = 200V$

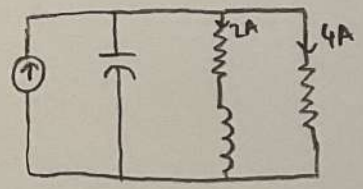
$-V_c + V_L = 0$

$V_L = V_c$

$V_L = 200$

$\frac{dV_c}{dt} = \frac{i_c}{C} = \frac{-6}{0,01} = -600$

c) $t=(0^-)$



$i_L(0^-) = i_L(0^+) = 2A$

$V_c(0^-) = V_c(0^+) = 200\ V$

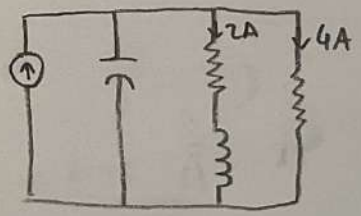
$i_R(0^-) = i_R(0^+) = 4A$

$V_L(0^-) = V_L(0^+) = 0V$

$i_c(0^-) = i_c(0^+) = 0A$

$\frac{dV_c(0^+)}{dt} = 0\ V/sn$

$t=(0^+)$



$-V_c + 2.100\Omega + V_L = 0$

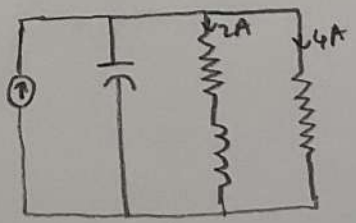
$V_L = V_c - 200$

$V_L = 200 - 200$

$V_L = 0$

$\frac{i_c}{C} = \frac{0}{0,01} = 0$

d) $t=(0^-)$



$i_L(0^-) = i_L(0^+) = 2A$

$V_c(0^-) = V_c(0^+) = 200V$

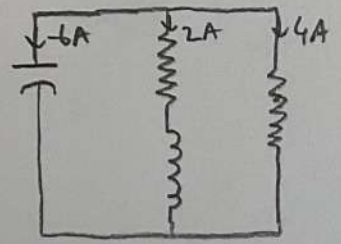
$i_R(0^-) = i_R(0^+) = 4A$

$V_L(0^-) = V_L(0^+) = 0V$

$i_c(0^+) = -6A$

$\frac{dV_c(0^+)}{dt} = -600\ V/sn$

$t=(0^+)$



$\frac{i_c}{C} = \frac{-6}{0,01} = -600\ V/sn$