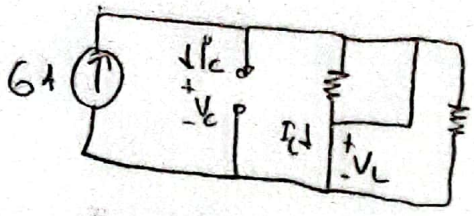
Adı Melih Soyadı Yelman No:821011702 İmzası

Hesaplar | Ölçümler

$I_L(0^-) = I_L(0^+) = I_L(0)$, $V_C(0^-) = V_C(0^+) = V_C(0)$

$I_R(0^-) = I_R(0^+) = I_R(0)$, $I_C = C \cdot \frac{dV_C}{dt}$

1.



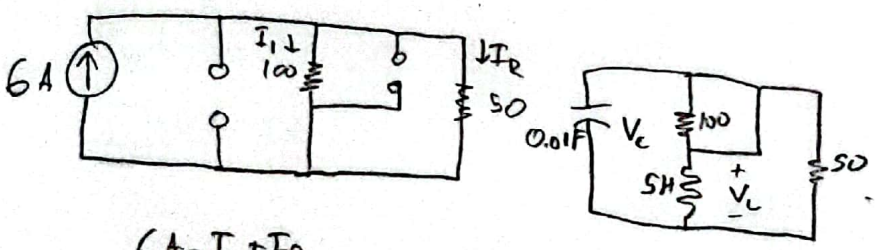
$I_L(0^-) = 6A$ $V_L(0^-) = 0V$

$I_C(0^-) = 0A$ $V_C(0^-) = 0V$

$I_R(0^+) = 0A$ $I_C(0^+) = 0A$

$\frac{dV_C}{dt} = 0$

2. Başlangıç $t(0^+)$



$6A = I_1 + I_R$

$I_R = \frac{100}{150} \cdot 6 = 4A$, $I_1 = 2A$

$I_C = I_1 = 2A$

$V_C = 2A \cdot 100\Omega = 200V$

$I_L(0^+) = 2A$ $V_C(0^+) = 200V$

$I_R(0^+) = 4A$ $V_L(0^+) = V_C(0^+) = 200V$

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

$\frac{dV_C}{dt} = \frac{I_C(0^+)}{C} = \frac{-6}{6,01} = -600\ V/s$

Ad & Melih Soyad: Yelman No: 21011702 İmza: Melih

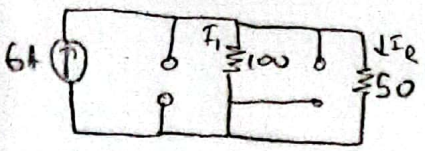
Hesaplar | Ölçümler

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

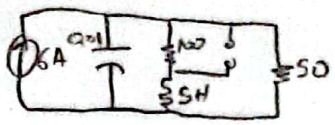
$I_R(0^-) = I_R(0^+) = I_R(0)$, $I_c = C \cdot \frac{dV_c}{dt}$

2.c

Başlangıç



t(0+)



$6A = I_1 + I_R$

$I_R = \frac{100}{150} \cdot 6 = 4A$, $I_1 = 2A$

$I_L = I_1 = 2A$

$V_C = 2A \cdot 100\Omega = 200V$

$I_L(0^+) = 2A$ $V_c(0^+) = 200V$

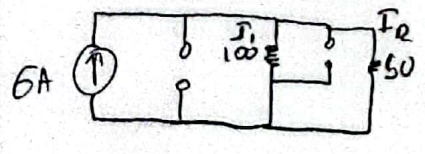
$I_R(0^+) = 4A$ $V_L(0^+) = V_C - 100\Omega I_1 = 0V$

$I_C(0^+) = 0A$

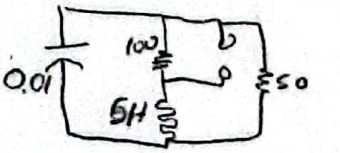
$\frac{dV_c}{dt} = \frac{I_c(0^+)}{C} = 0 V/s$

2.d

Başlangıç



t(0+)



$6A = I_1 + I_R$

$I_R = \frac{100}{150} \cdot 6A = 4A$, $I_1 = 2A$

$V_C = 2A \cdot 100\Omega = 200V$

$I_L(0^+) = 2A$ $V_c(0^+) = 200V$

$I_R(0^+) = 4A$ $V_L(0^+) = V_c = 100\Omega \cdot I_1 = 0V$

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

$\frac{dV_c}{dt} = \frac{I_c(0^+)}{C} = \frac{-6}{0,01} = -600 V/s$