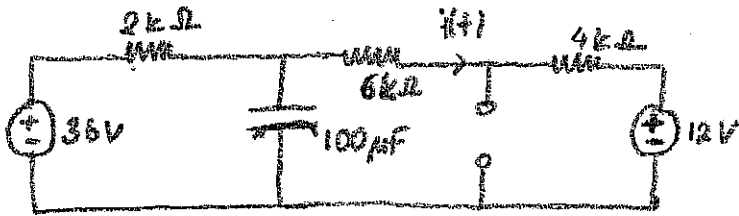
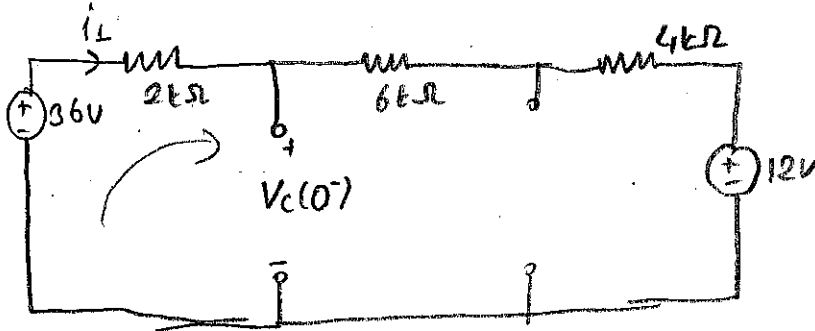


2)



$$i(t) = ?$$



$$i_1 = \frac{36 - 12}{12k}$$

$$i_1 = 2 \text{ mA}$$

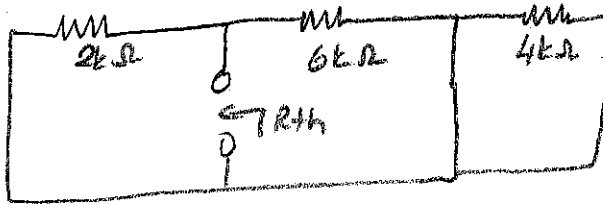
$$-36 + (2k)(2 \text{ mA}) + V_c(0^-) = 0$$

$$V_c(0^-) = 36 - 4 = 32 \text{ V}$$

$t = 0^+$ 'da kondansatörün gerilimi $V_c(0^-) = V_c(0^+) = 32 \text{ V}$
 $t > 0$ durumunda $V_c(0^+)$ gerilimi $6k\Omega$ üzerindeki gerilime eşit olur.

$$i(0^+) = \frac{32}{6k} = \frac{16}{3} \text{ mA}$$

$$i(\infty) = \frac{36}{2k + 6k} = \frac{9}{2} \text{ mA}$$



$$R_{th} = \frac{2k \cdot 6k}{8k} = \frac{3}{2} k\Omega$$

$$\tau = R_{th} \cdot C = \frac{3}{2} \cdot 10^3 \cdot 100 \mu\text{F} = 0,15 \text{ s}$$

$$i(t) = \frac{9}{2} + \left(\frac{16}{3} - \frac{9}{2} \right) e^{-\frac{t}{0,15}} \text{ mA} \quad t \geq 0^+$$

(2) (3)

$$i(t) = \frac{9}{2} + \frac{5}{6} e^{-\frac{t}{0,15}} \text{ mA} \quad t \geq 0^+$$