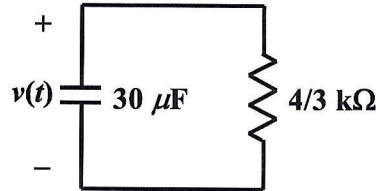


EE 2240

Homework Problem #065



Given $v(0) = 75 \text{ V}$, determine $v(t)$ for $t \geq 0$.

$$\tau = RC = \left(\frac{4}{3} \text{ k}\Omega\right)(30 \mu\text{F}) = 0.04 \text{ s}$$

$$\begin{aligned} v(t) &= v(0) e^{-t/\tau} \text{ V} \\ &= 75 e^{-t/0.04} \text{ V} \\ &= 75 e^{-25t} \text{ V} \end{aligned}$$