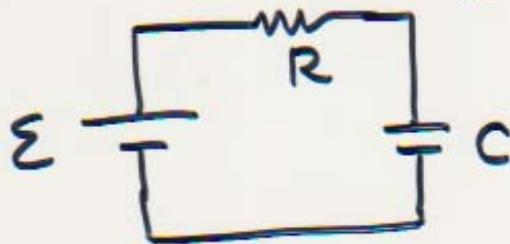
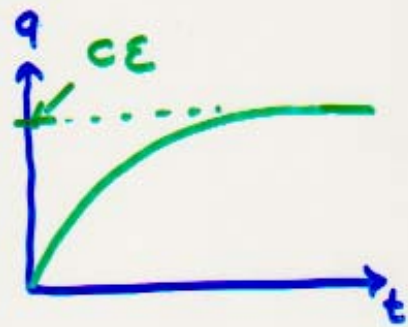


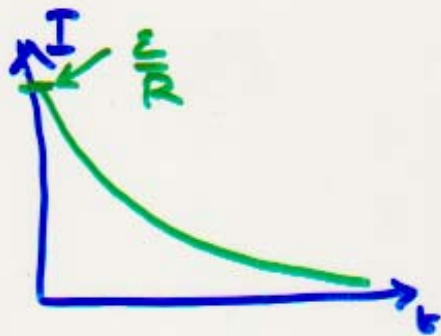
Charging



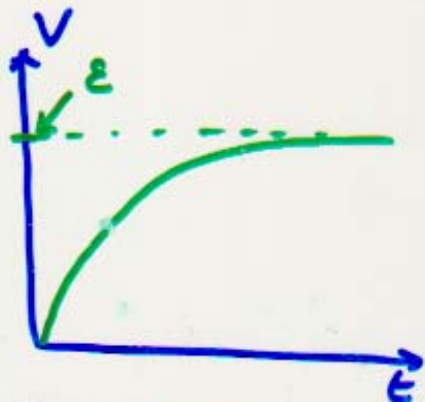
$$q(t) = \underbrace{\varepsilon C}_{q_{\max}} (1 - e^{-t/RC})$$



$$I(t) = \frac{dq}{dt} = \underbrace{\frac{\varepsilon}{R}}_{I_{\max}} e^{-t/RC}$$

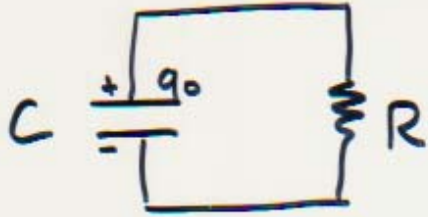


$$V(t) = \frac{q}{C} = \varepsilon (1 - e^{-t/RC})$$

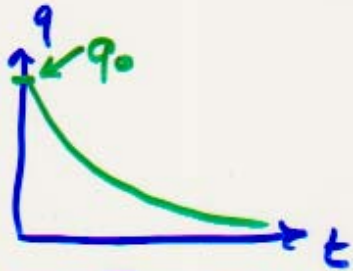


RC : time constant in (sec)

Discharging

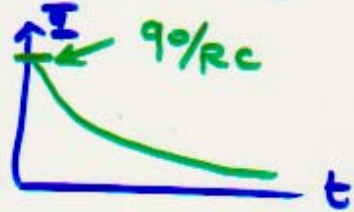


$$q(t) = q_0 e^{-t/RC}$$



$$I(t) = \frac{dq}{dt} = \frac{q_0}{RC} e^{-t/RC}$$

I_{max}



$$V(t) = \frac{q}{C} = \frac{q_0}{C} e^{-t/RC}$$

V_{max}

