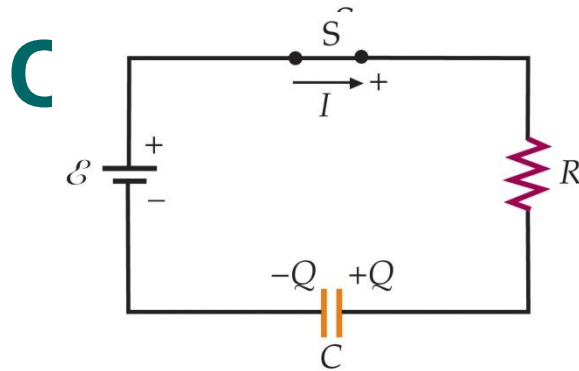
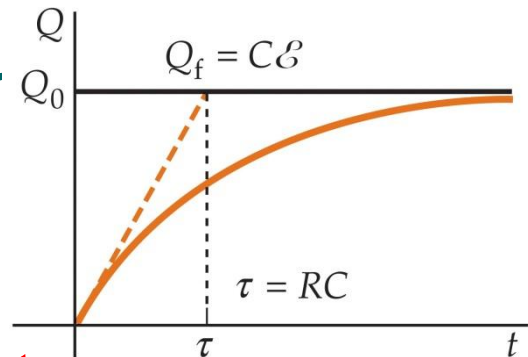


Carga y descarga de un condensador a través de una resistencia



condensa

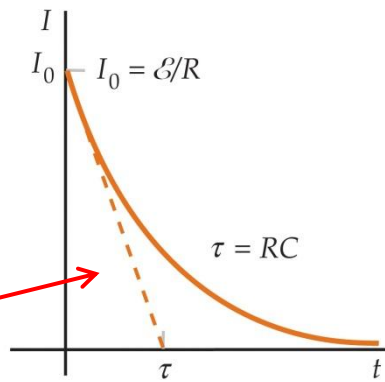


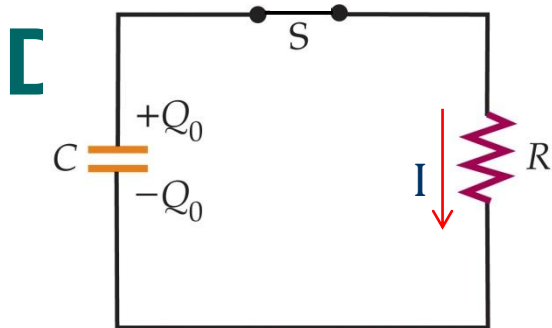
$$\left. \begin{aligned} \mathcal{E} - IR - \frac{Q}{C} &= 0 \\ I &= \frac{dQ}{dt} \end{aligned} \right\} \Rightarrow \frac{dQ}{Q - \mathcal{E}C} = -\frac{dt}{RC}$$

$\tau = RC = \text{Constante de tiempo}$

Integrando: $Q = \mathcal{E}C(1 - e^{-t/RC}) = Q_f(1 - e^{-t/\tau})$

Derivando: $I = \frac{\mathcal{E}}{R}e^{-t/RC} = I_0e^{-t/\tau}$





un cono

$$\left. \begin{aligned} \frac{Q}{C} - IR &= 0 \\ I &= -\frac{dQ}{dt} \end{aligned} \right\} \Rightarrow \frac{dQ}{Q} = -\frac{dt}{RC}$$

Integrando:

$$Q = Q_0 e^{-t/RC} = Q_0 e^{-t/\tau}$$

Derivando:

$$I = \frac{Q_0}{RC} e^{-t/RC} = I_0 e^{-t/\tau}$$

