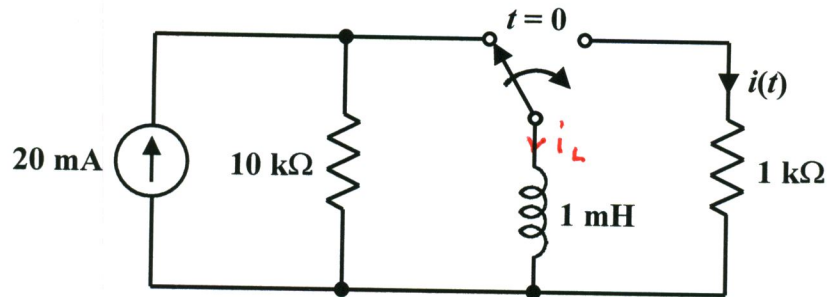


EE 2240  
Problem #06

The circuit has reached the DC steady state prior to  $t = 0$ . Find  $i(t)$  for  $t \geq 0$ .



$$i_L(0) = 20 \text{ mA}$$

$$\tau = \frac{1 \text{ mH}}{1 \text{ k}\Omega} = 1 \mu\text{s}$$

$$i_L(t) = i_L(0) e^{-t/\tau}$$

$$= 20 e^{-10^6 t} \text{ mA}, t \geq 0$$

$$i(t) = -i_L(t) = -20 e^{-10^6 t} \text{ mA}, t \geq 0$$