

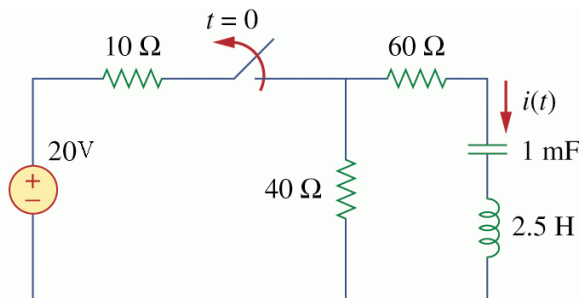
**P1** A series RLC circuit has  $R = 10 \text{ k}\Omega$ ,  $L = 0.1 \text{ mH}$ , and  $C = 10 \text{ }\mu\text{F}$ . What type of damping is exhibited?

Hint:  $\omega_o$  is roughly 30,000

**P2** Find  $i(t)$  for  $t > 0$ .

Hints: •  $i'(0^+)$  is between -10 and -5 A/s.

- One of the two coefficients of the natural solution is zero when solved for using the initial conditions.



**P3** Find  $C$  in the circuit below so that the response is underdamped with a unity damping factor ( $\alpha = 1$ ).

Hint:  $C$  is a “nice” number between 10 mF and 100 mF.

