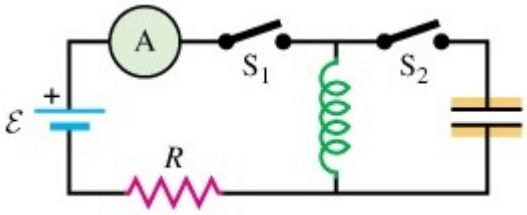
Quiz 10A

PHYSICS 208, WINTER 2016

SECTION: NAME:

Instructions: *Carefully* read each question and write your work in a neat and organized manner.

Figure 1: A Simple RLC Circuit



The RLC Circuit

The circuit in Figure 1 has an inductor of self-inductance L and a capacitor of capacitance C. **(A)** [80 pts] Using Kirchoff's loop rule, write an equation that describes how the charge on the capacitor q changes with time, if S_1 is open and S_2 is closed. Assume that a moment earlier, a steady current I_0 was established with S_1 closed and S_2 open. **(B)** [20pts] Sketch a graph of current versus time to represent the S_1 open and S_2 closed case.