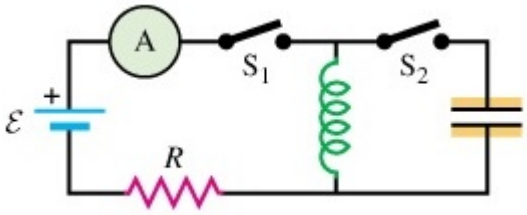
Quiz 10B

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 current i changes with time, as read by the ammeter, if S_2 is open and S_1 is closed at $t = 0$. [Assume that initially, the capacitor has a charge of zero, and the stored energy of the inductor is zero.]**(B)** [20pts] Sketch a graph of current versus time to represent the S_2 open and S_1 closed case.