

Quiz 10C

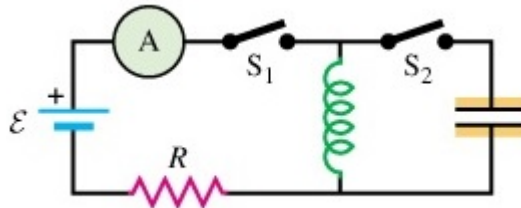
PHYSICS 208, WINTER 2016

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) [60 pts] Suppose at $t = 0$, the capacitor is fully charged with charge Q_0 and the power supply is removed from the circuit. Use the fact that the resulting LC circuit (S_1 open, S_2 closed) is conservative to find the current as a function of charge q and the constants L , Q_0 and C . (B) [20pts] What is the maximum current in terms of the constants given? (C) [20pts] What is the minimum current?