Experiment 10: Resonance in AC Circuits

Student Name: _____

Section Number: _____

PRELAB

PRE-LAB Instructions:

Print out this page. Feel free to refer to the lab Instructions and other materials, your physics textbook, other students, etc. to help you to ponder, understand, and work out answers to the following question(s). Show your work & answers in the space(s) provided.

PRE-LAB Questions

1) In an LRC circuit, why does the sum of the voltages around the circuit not equal the applied voltage as Kirchhoff's rule requires?

2) Using L = 20 mH, C = 50 μF and R = 15 ohms, calculate the resonant frequency of a series LRC circuit. Show your work in the space below.

3) Using the values from pre-lab question 2 and an applied voltage of 3.0 volts across the circuit, plot (on a separate sheet) the voltage across the resister as a function of frequency from 40 Hz