

## Exam2 Details Ch 18, 19

Exam 2 will last 1 hour and 15 minutes, and will be given in your lab room. The exam will consist of multiple choice questions. These will be similar to the kinds of question we address in class and lab: some will be conceptual and some will involve calculations.

A formula sheet will be included with your exam.

### Chapter 18

- Know the definition of current, and how current, voltage and resistance are related for Ohmic materials.
- Know how to determine the resistance from length, area cross section, and resistivity.
- For resistors in series and parallel, know what quantities are different and which are the same. Know how to combine resistors in series and parallel.
- Know how to determine the power dissipated in a resistor.
- Know how to determine the time constant of an RC circuit. Be able to solve problems of charging and discharging capacitors similar to those in class and Sapling.

### Chapter 19

- Know the difference between S- and N- magnetic poles.
- Be able to calculate the magnetic force on a charged particle moving in a magnetic field. Be able to apply the right hand rule

to conceptual problems to determine force direction.

- Be able to solve problems that apply magnetic forces, such as the velocity selector and the mass spectrometer.
- Be able to calculate the torque on a current loop in a uniform magnetic field.
- Be able to calculate the magnetic field due to a long straight wire and a solenoid.

### In general:

- As discussed in class, know how to simplify algebraic relationships.
- As discussed in lab, know how to report measurements to the correct number of significant figures.
- Know whether two measurements are significantly different.