Prelab-PHYS222
The Current Balance

1. What physical phenomena does the relationship $\vec{F} = q\vec{v} \times \vec{B}$ describe?

2. What physical phenomena does the relationship $\vec{F} = I\vec{L} \times \vec{B}$ describe?

3. Magnetic force is dependent upon what four factors?

4. In this experiment you are to plot three sets of data. Draw a sample plot for parts I, II and III. This is a qualitative exercise only. You will need no numbers. Draw the trend only (i.e., a line or curve). *Label axes* and if applicable-give slope (*be explicit*) . For example, the slope of I=1/R*V is 1/R.

5. Given the following setup, does the balance read heavier or lighter? Explain using the right hand rule and Newton's Third Law.   (Note-the apparatus below represents a magnet sitting in the mass pan of a scale). **See figure 22-3 of lab procedure for help.**