196 - Final		Any variation of Questions and Problems
1	Written Response 12 points *Using words, diagrams and equations,*	***You need to fully explain, use diagrams, use formulas. Use an example. Practice these answers.*** **Ch 24:** Explain Gauss's Law. What are the conditions needed to use Gauss's Law? **Ch28**: What is the circuit for a Voltmeter and Ammeter (figures 28.28/29)? Explain how the circuit operates to produce a reading. Use a circuit. **Ch 30**: Derive and explain figure 30.31, the magnetization curve. You will need fig 30.30. I have an animation online, check it out.
2	Written Response 12 points *Using words, diagrams and equations*	***You need to fully explain, use diagrams, use formulas. Practice these answers.*** **Ch 30**: After going through my Power Point on the web, show and derive equations of a mass spectrometer. You will need an excellent diagram here. **Ch 31:** Show and explain an application of Faraday's Law. (Use a guitar, a GFCI, an electric motor, a generator, a speaker or a microphone.) You need to be complete. **Ch 32:** Using figure 32.6 The RL circuit and derive and explain eqs. 32.7-10.
3	Quick Quiz 8 points	These Quick Quiz questions will show up on the Final You will need to provide explanations for your choices. Ch23: **4** – Ch24: **3** – Ch25: **3** – Ch26: **6** – Ch27: **6** Ch28: **4** – Ch29: **9** – Ch30: **3** – Ch31: **6**
4	Quick Quiz 8 points	
5	Quick Quiz 8 points	
6	Basic Prob 8 points	These Basic Physics Problems will show up on the Final. You will need to show your work. Ch23: **10** - Ch23: **19** – Ch24: **16** – Ch25: **16** – Ch26: **28** Ch28: **24** - Ch29: **30** – Ch30: **12** – Ch31: **29**
7	Basic Prob 8 points	
8	Basic Prob 8 points	
9	**DRS** Two problems 48 points	Ch23: **49** - Ch24: **55**- Ch28: **68** – Ch31: **52**

Final Test Date – <u>Tuesday 5/13/08 at 10:30-12:30 pm</u>

You will **randomly** receive one of three versions of the test above. You cannot have any notes. There are two questions (1 and 2) that require you to write a complete and concise explanation along with an appropriate diagram and mathematical logic (equations). Practice these questions. Write your answer out. Do not use paragraphs. Use bullets or steps. Pretend that you are to provide an explanation to the class.

There are 3 multiple-choice questions which require a correct and **brief explanation** as to why you chose your answer. There are also 3 basic problems that require you to show some of your work. These are not easy or simple problems. Basic means that you are capable and prepared to solve these problems.

Problem 9 requires that you show a complete diagram, clear reasoning and a correct solution. Practice drawing your diagram. Diagrams are important. They demonstrate your knowledge and understanding of the problem. They are not for show. You will have 120 minutes.

NO programmable calculators.