Final Exam Overview

The final exam will consist of 6-8 problems similar in style to those on the hour exams. The problems will cover the assigned material in chapters 21-31 of the text. Each problem on the final will be concerned with one of the following topics:

1. Determination of electric field using Coulomb’s law
2. Determination of electric field using Gauss’s law
3. Forces on charges in an electric field
4. Determination of the electrostatic potential energy associated with a collection of charges
5. Determination of the electrostatic potential at a point in space from a collection of charges
6. Capacitors in series and parallel
7. Resistors in series and parallel
8. Power in DC circuits
9. Application of Kirchhoff rules
10. RC circuits
11. Magnetic forces on current carrying conductors
12. Torques on current loops
13. Determination of magnetic field using the law of Biot and Savart
14. Determination of magnetic field using Ampere’s Law
15. Induced EMF & Lenz’s law
16. Self Inductance
17. LR circuits
18. LC circuits and Simple Harmonic Motion
19. Simple AC circuits
20. Energy in AC circuits