

ECE 3300 Midterm II –Fields

** See old Midterms II, III, and Final for examples of these problems. Disregard problems that are dissimilar from what we have done in class this year.

Electrostatics

1) ***Coulomb's Law***

Given charge distribution (line, surface, volume, indiv. charges), find E.

We will stick with rectangular (xyz) distributions.

2) ***Gauss Law for E (cylindrical or spherical distributions)***

3) ***Boundary Conditions for E***

Magnetostatics

1) ***Biot-Savart Law***

Given (rectangular coordinate system) current distribution, find H

2) ***Boundary Conditions for H***

3) ***Ampere's Law (cylindrical)***

Dynamic Fields

1) ***Faraday's and Lenz's Law***