

PHYS 272 (Spring 2019): Introductory Physics: Fields

Suggested practice problems for final exam (from Giancoli)

(Note that some of these are all numerical, but you first need to understand the physics/know which formulae to use etc. so that this is good practice for *non-numerical*-type problems also.)

Chapter 21 of Giancoli

1. Force due to electric field: problem 27

Chapter 22 of Giancoli

1. Gauss's law for *thick* cylindrical shells: problem 38

Chapter 23 of Giancoli

1. Potential related to electric field: problem 8

Chapter 24 of Giancoli

1. Combinations of capacitances (and voltages across them): problems 27 and 28

Chapter 25 of Giancoli

1. Basics of power and Ohm's law: problem 37

Chapter 26 of Giancoli

1. Simple series and parallel combination of resistors (including battery's internal resistance) and power dissipated in them: problems 11, 12 and 79
2. Simple RC circuit: problem 44

Chapter 27 of Giancoli

1. Force on charge moving in magnetic (and electric) field: problems 22 and 25

2. Force on current in magnetic field: problem 10
3. Torque on current loop due to magnetic field: problem 36

Chapter 28 of Giancoli

1. Bio-Savart law: problem 35
2. Magnetic field due to straight wires: problem 20
3. (Magnetic) force between two straight wires: problem 4
4. Ampere's law: problem 27

Chapter 29 of Giancoli

1. Faraday's law: problem 17
2. Lenz's law: problem 2
3. Faraday's *and* Lenz's laws: problem 67

Chapter 30 of Giancoli

1. Mutual inductance: problem 1

Chapter 31 of Giancoli

1. Basics of plane electromagnetic wave: problem 28