

Test 3 Study Guide: Lectures 8-11

General topics:

- Electric potential
 - Relationship between electric field and electric potential
 - Interpreting equipotential lines
 - Electric potential generated by charges in space
- Capacitors
 - Physical capacitors and dielectrics
 - Relationship between charge, voltage, and capacitance
- Resistors
 - Physical resistors
 - Relationship between current, voltage, and resistance
- Series and Parallel rules
 - Identifying when current is shared through elements or potential difference is shared
 - Series and Parallel Configurations and equivalent components
 - We will NOT mix resistors and capacitors into the same circuit on Test 3.

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Be prepared to deal with the following situations:

- Finding potential created by two or more charges at some position in space
- Relating electric field strength and/or direction to electric potential
- Determining work done to move a charge in space, given equipotential lines
- Calculate capacitance of a physical capacitor
- Determine energy stored on a capacitor
- Calculate resistance of a physical resistor
- Determine equivalent resistance of a network of resistors
- Identify whether circuit elements are in series or parallel configuration
- Identify shared properties of circuit elements when they are arranged in series or parallel
- Identify how changing one component in a circuit affects the rest of the components