

ELT 101: Basic Electricity: AC/DC**Unit 5 Exam: Resistance and Power**

NAME _____

DATE _____

Circle the most correct answer (2 points each for a total of 36 points)

- 1) Resistors are usually rated by:
- A. resistance and power
 - B. resistance and voltage
 - C. resistance and current
 - D. resistance and size
 - E. resistance, power and tolerance
- 2) A resistor that increases in resistance with an increase in temperature:
- A. is normal
 - B. has a positive temperature coefficient
 - C. is defective
 - D. has a negative temperature coefficient
- 3) A resistor's color code is red, red, red, silver. What is its resistance and tolerance?
- A. 2.2K ohm, 10%
 - B. 3.3K ohm, 10%
 - C. 2.2K ohm, 20%
 - D. 220 ohm, 10%
- 4) When measuring resistance with an analog multimeter, you should first:
- A. calibrate the meter
 - B. set the meter to the correct scale
 - C. make sure the meter is fused
 - D. make sure the circuit is powered off.

- 5) The unit of measurement of resistance is the:
- A. siemen
 - B. bohr
 - C. conductor
 - D. none of the above
- 6) The watt is the unit measurement for:
- A. power
 - B. energy
 - C. joules
 - D. heat
- 7) Power is the _____ at which energy is transformed.
- A. way
 - B. rate
 - C. purpose
 - D. none of the above
- 8) When measuring the resistance of a resistor, the ohmmeter is placed:
- A. in series with the voltage source
 - B. across the resistor
 - C. in series with the resistor
- 9) Power is measured in:
- A. volts
 - B. ohms
 - C. watts
 - D. amps

10 Power:

- A. is measured in coulombs
- B. is measured in amps per second
- C. is provided by the load
- D. is the rate at which work is done

11) A resistor has a resistance in ohms. It is also rated:

- A. in maximum voltage
- B. in voltage drop
- C. in watts
- D. in maximum current

12) Which of the below is an accepted way to express a four thousand seven hundred ohm resistor?

- A. 47K
- B. 4K7
- C. 470K
- D. none of the above

13) Resistors are classified as being either:

- A. fixed or variable
- B. open or shorted
- C. good or bad
- D. resistive or inductive

14) The Greek symbol for the unit of resistance is:

- A. alpha
- B. epsilon
- C. omega
- D. theta

15) Resistance depends on which of the following:

- A. type of conducting material used
- B. cross section of the conductor
- C. length of the conductor
- D. temperature of the conductor
- E. all of the above

16) A rheostat is a _____ terminal device and a potentiometer is a _____ terminal device.

- A. one, two
- B. two, three
- C. two, one
- D. three, two

17) A potentiometer can be used to control both current and voltage, but a rheostat can only be used to control current.

- A. true
- B. false

18) With the AWG system of wire gauge:

- A. the higher the number, the larger the wire diameter
- B. the higher the number, the smaller the diameter the wire
- C. the number tells you the resistivity of the wire
- D. the number tells you the conductance of the wire

Match the color code to its value (**2 points each**)

- | | |
|----------------------------|-------------|
| ___ brown, black, brown | A. 47K ohms |
| ___ brown, black, green | B. 100 ohms |
| ___ orange, orange, red | D. 1M ohm |
| ___ yellow, violet, orange | E. 3.3K ohm |

Match the colors to their resistor's tolerance (**2 points each**)

- | | |
|--------------|--------|
| ___ gold | A. 5% |
| ___ silver | B. 20% |
| ___ no color | C. 10% |

Points possible:

Multiple choice: 36

Matching: 14

50

***** end of unit 5 exam *****