

ELT 101: Basic Electricity: AC/DC**Unit 2 Exam**

NAME _____

DATE _____

Circle the most correct answer (2 points each for a total of 40 points)

- 1) The charge of an electron is
 - A. Positive
 - B. Negative
 - C. Neutral
- 2) This particle has a positive charge
 - A. Proton
 - B. Neutron
 - C. Electron
 - D. all of the above
- 3) An element with 14 protons and 14 electrons has what atomic number?
 - A. 0
 - B. 14
 - C. 28
 - D. none of the above
- 4) According to the Bohr model of atomic structure, an atom consists of what three basic parts?
 - A. protons, neutrons and quarks
 - B. electrons, protons and quarks
 - C. electrons, neutrons and protons
 - D. neutrons, electrons and quarks
- 5) A positive ion has:
 - A. Lost some of its electrons
 - B. Gained extra protons
 - C. Lost neutrons
 - D. Gained more electrons

- 6) One coulomb equals
- A. 6.24×10^{18} electrons
 - B. 6.24×10^{-18} electrons
 - C. 6.24×10^8 electrons
 - D. 6.24×10^{19} electrons
- 7) Electrons are kept in orbit around the nucleus of an atom by:
- A. electrostatic force
 - B. gravity
 - C. electromagnetic force
 - D. electron force
- 8) Opposite charges:
- A. Are neutral
 - B. Repel
 - C. Attract
 - D. Are always equal
- 9) What has more free electrons:
- A. Insulators
 - B. Conductors
 - C. Both A & B
 - D. none of the above
- 10) The outer electron orbit in any atom is called the:
- A. outer shell
 - B. far orbit
 - C. valence orbit
 - D. electron shell
- 11) The number is 632.48. Pick the MOST and LEAST significant digits.
- A. 8 and 6
 - B. 2 and 3
 - C. 6 and 8
 - D. 3 and 2

- 12) The number is 680.72. What are the LEAST two significant digits?
- A. 80
 - B. 68
 - C. 72
 - D. 27
- 13) Which of the below is equivalent to the metric notation milli?
- A. 10^{-6}
 - B. 10^{-3}
 - C. 10^3
 - D. 10^6
- 14) Which of the below is equivalent to the metric notation kilo?
- A. 10^{-6}
 - B. 10^{-3}
 - C. 10^3
 - D. 10^6
- 15) The number is 65,200. Convert to engineering notation.
- A. 6.52×10^3
 - B. 6.52×10^6
 - C. 65.2×10^3
 - D. 65.2×10^2
- 16) Convert 0.00231 to metric notation.
- A. 23.1 micro
 - B. 231 nano
 - C. 232 milli
 - D. 2.31 milli
- 17) Convert 195000 millivolts to decimal.
- A. 1.95 volts
 - B. 19.5 volts
 - C. 0.195 volts
 - D. 195 volts

- 18) Your lab partner asks for a 1000 ohm resistor. What would be the metric equivalent for the resistor?
- A. 10K ohms
 - B. 1K ohms
 - C. 1000K ohms
 - D. 100K ohms
- 19) How many amps are there in 250,000 millamps?
- A. 250 amps
 - B. 0.25 amps
 - C. 2.5 amps
 - D. 25 amps
- 20) The circuit you are working with is using 2500 milliwatts. How many watts is the circuit using?
- A. 2.5 watts
 - B. 250 watts
 - C. 2500 watts
 - D. 25 watts

Match the term to its definition (2 points each for a total of 10 points)

- | | | |
|----------------|-------|---|
| A) Coulomb | _____ | an atom that has an unbalanced charge |
| B) Conductance | _____ | a material that has eight valence electrons |
| C) Conductor | _____ | a wire that carries electric current |
| D) Insulator | _____ | unit for quantity of electrons |
| E) Ion | _____ | how well a circuit or path conducts current |

Points possible:

Multiple choice: 40

Matching: 10

50

***** end of unit 2 exam *****