

ELT 101: Basic Electricity: AC/DC**Unit 3 Exam: Voltage and Current**

NAME _____

DATE _____

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

1) Voltage is:

- A. electrical pressure
- B. a difference of potential
- C. charge separation
- D. all of the above

2) A battery converts what into electrical energy?

- A. motion
- B. light
- C. heat
- D. chemicals

3) You want to increase the voltage by connecting multiple batteries. To do this you must:

- A. connect the batteries in parallel (plus to plus, minus to minus)
- B. connect the batteries in series (minus to minus)
- C. connect the batteries in series (plus to minus)
- D. connect the batteries in parallel (minus to plus, plus to minus)

4) Three 6V batteries are connected in parallel. What is their combined voltage?

- A. 0V
- B. 6V
- C. 12V
- D. 18V

- 5) In mechanically generated DC, _____ is converted into electrical energy.
- A. sunlight
 - B. moonlight
 - C. pressure
 - D. any of the above
- 6) Whenever a magnet passes near a conductor it causes current to flow.
- A. true
 - B. false
- 7) A battery consists of which of the below?
- A. conductors, electrodes, and insulators
 - B. anode, cathode, electrolyte
 - C. conductors, electrolyte and insulators
 - D. anode, cathode and insulators
- 8) An electrolyte can be either wet or dry.
- A. true
 - B. false
- 9) Which of the below is an example of electrically generated DC?
- A. a battery
 - B. a solar cell
 - C. a power supply
 - D. a motor
- 10) Current is _____ electron drift.
- A. random
 - B. one way
 - C. directed
 - D. none of the above

- 11) Current is measured in _____.
- A. coulombs
 - B. amperes
 - C. amperes per second
 - D. coulombs per minute
- 12) One ampere equals one _____ per _____.
- A. ampere, second
 - B. ampere, minute
 - C. coulomb, second
 - D. coulomb, minute
- 13) How many electrons are there in one coulomb?
- A. 6.28×10^{-16}
 - B. 6.28×10^{16}
 - C. 6.28×10^{-18}
 - D. 6.28×10^{18}
- 14) A DMM is a:
- A. digital multi-meter
 - B. dynamic multi-meter
 - C. digital measurement meter
 - D. dynamic measurement meter
- 15) Before using a DMM it's imperative that you first:
- A. check your fuses
 - B. check your test leads
 - C. check the meter for damage
 - D. all of the above

- 16) The number one rule for making measurements is:
- A. to make sure the power is off
 - B. make sure you know what should be there before measuring
 - C. keep one hand in your pocket
 - D. all of the above
- 17) Voltage is measured _____ a component.
- A. across
 - B. in line with
 - C. either A or B
- 18) Current is measured _____ a component.
- A. across
 - B. in line with
 - C. either A or B
- 19) In order to measure current with a DMM, you need to:
- A. change your leads to one of the amperage jacks
 - B. break the circuit
 - C. insert your meter
 - D. all of the above
- 20) Checking the fuses on a Fluke DMM ensures that the voltage portion of the meter is functioning.
- A. true
 - B. false

21) PPE stands for:

- A. Peter Piper Express
- B. Personal Protective Equipment
- C. Personal Protected Environment
- D. none of the above

22) When checking fuses on a Fluke DMM a OL reading means the fuse is OK.

- A. true
- B. false

23) Energy can be produced when light is applied to two _____ materials.

- A. similar
- B. dissimilar
- C. organic
- D. radioactive

24) A battery creates voltage by _____ charges.

- A. separating
- B. combining
- C. growing
- D. creating

25) There is no difference between a cell and a battery.

- A. true
- B. false

Points possible:

Multiple choice: 50

50

***** end of unit 3 exam *****