

NAME: _____
DATE: _____

ID: A

Course: Basic Principles/Industrial Electricity
Course#: ELC191
Topic: Quiz
Instructor: Mr. Lombardo

ELC191 Quiz Circuit Rules

Please remove all items from your desk.
This is a closed textbook quiz worth 22 points.
Please PRINT the letter of the ***BEST*** answer in the space provided.
Any unanswered questions will be graded as incorrect.
You will have 30 minutes to complete this exam. Good Luck!

Multiple Choice

- _____ 1. Electric power is measure in units of:
A. Amps
B. Ohms
C. Volts
D. Watts
- _____ 2. What three letters represent voltage, current, and resistance in the Ohm's Law formula?
A. E, I, R
B. V, R, C
C. W, R, C
D. V, I, R
- _____ 3. What two type of circuits are contained within combination circuits?
A. Series and parallel circuits
B. Open and closed circuits
C. Shorted elements and open elements
D. Shorts and grounds
- _____ 4. The definition of a series circuit is:
A. A circuit that has more than one path for current flow
B. A circuit that has only one path for current flow
C. A circuit that has one conductor grounded
D. A circuit that contains one hot and one neutral conductor
- _____ 5. A rule concerning voltage for elements connected in parallel is:
A. The voltage is the same across all parallel elements
B. The voltage drop across parallel elements is an average of the supply voltage divided by the number of elements
C. The supply voltage is the sum of the reciprocals of the voltage drops across each element
D. The voltage supplied to parallel elements is equal to the sum of the voltage drops across them
- _____ 6. The property of a circuit that hinders the flow of electrons is generally referred to as:
A. Current
B. Coulombs
C. Voltage
D. Resistance

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- _____ 7. The rule concerning resistance in a parallel circuit, states:
- A. The reciprocal of the total resistance is the sum of the reciprocals of each branch
 - B. The resistance of each branch is the same
 - C. The total resistance is the sum of the resistance of all the branches
 - D. The resistance of each branch is an average of the resistance of all other branches
- _____ 8. A rate of electron flow equal to one coulomb per second is called:
- A. An ohm
 - B. A volt
 - C. An ampere
 - D. A watt
- _____ 9. What is a coulomb?
- A. A unit measure of potential difference
 - B. A quantity measure of electrons
 - C. A measure of power
 - D. A unit measure of resistance
- _____ 10. What are the three basic types of electric circuits?
- A. Grounded, shorted, open
 - B. Single wire, two wire, and three wire
 - C. Open, closed, shorted
 - D. Series, Parallel, Combination
- _____ 11. The basic building block of the universe is the:
- A. molecule
 - B. electron
 - C. atom
 - D. proton
- _____ 12. What circuit(s) can combination circuits be reduced to?
- A. A simple series circuit
 - B. Neither a simple series nor a simple parallel circuit
 - C. Either a simple series or a simple parallel circuit
 - D. A simple parallel circuit
- _____ 13. How are fuses and circuit breakers connected in relation to the rest of the circuit?
- A. They are connected in series with the rest of the circuit
 - B. They are connected in series with hot conductors and in parallel with neutral
 - C. They are connected in series with lighting circuits and in parallel with branches containing receptacles
 - D. They are connected in parallel with the rest of the circuit
- _____ 14. What are the three major subatomic parts of an atom and what charge does each carry?
- A. Proton (positive), Neutron (none), Electron (negative)
 - B. Proton (positive), Neutron (negative), Electron (none)
 - C. Proton (none), Neutron (positive), Electron (negative)
 - D. Proton (negative), Neutron (positive), Electron (none)



- _____ 15. A rule concerning current flow in elements connected in parallel is:
- A. The total current is the sum of the reciprocal of the currents in all parallel elements
 - B. The total current is the difference of the current flow through parallel elements
 - C. The current is the same through all elements connected in parallel
 - D. The total current is the sum of the currents of the parallel elements
- _____ 16. What is a conductor?
- A. A material that hinders the flow of electricity
 - B. A device used to measure the electricity flowing in a circuit
 - C. A device that measures circuit voltage
 - D. A material that permits electricity to flow through it easily
- _____ 17. The rule concerning current in a series circuit, states:
- A. The current in each element can be determined by dividing the total current by the number of elements
 - B. The total current is the sum of the reciprocals of the currents in each element
 - C. The total current is equal to the sum of the current flowing in each element
 - D. The current is the same in all circuit elements
- _____ 18. What electrical quantity describes the force that pushes the electrons through the circuit?
- A. An ohm
 - B. A volt
 - C. An ampere
 - D. A watt
- _____ 19. What are valence electrons?
- A. Electrons found in the nucleus of an atom
 - B. An electron that has become positively charged
 - C. Electrons that have no charge (electrically neutral)
 - D. Electrons located in the outer most orbit of an atom
- _____ 20. A rule concerning resistance of series connected elements is:
- A. The resistance of each element is an average value of the total resistance divided by the number of resistors
 - B. The total resistance is the sum of the resistors connected in series
 - C. The total resistance of a parallel circuit will always be greater than the total resistance of a series circuit
 - D. The total resistance of a series circuit will always be greater than the total resistance of a parallel circuit



- _____ 21. A rule concerning voltage drops of series connected elements is:
- A. The total voltage is an average of the voltage drops across series connected elements
 - B. The voltage is the same across series connected elements
 - C. The total voltage is the sum of the voltage drops of series connected elements
 - D. The total voltage is the sum of the reciprocals of the voltage drops of series connected elements
- _____ 22. What electrical quantity is measure in ohms?
- A. Current
 - B. Voltage
 - C. Power
 - D. Resistance

