

NAME: _____
DATE: _____

ID: A

Course: Basic Principles/Industrial Electricity
Course#: ELC191
Topic: Final Exam
Instructor: Mr. Frank R. Lombardo

ELC191 Final Exam

This is an open textbook exam 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 50 minutes to complete this exam. Good Luck!

Multiple Choice

- _____ 1. What are the three major subatomic parts of an atom and what charge does each carry?
A. Proton (negative), Neutron (positive), Electron (none)
B. Proton (positive), Neutron (negative), Electron (none)
C. Proton (positive), Neutron (none), Electron (negative)
D. Proton (none), Neutron (positive), Electron (negative)
- _____ 2. The basic building block of the universe is the:
A. molecule
B. proton
C. electron
D. atom
- _____ 3. What are valence electrons?
A. Electrons located in the outer most orbit of an atom
B. Electrons that have no charge (electrically neutral)
C. Electrons found in the nucleus of an atom
D. An electron that has become positively charged
- _____ 4. What is a coulomb?
A. A unit measure of potential difference
B. A unit measure of resistance
C. A measure of power
D. A quantity measure of electrons
- _____ 5. A rate of electron flow equal to one coulomb per second is called:
A. A volt
B. An ampere
C. An ohm
D. A watt
- _____ 6. What electrical quantity describes the force that pushes the electrons through the circuit?
A. A volt
B. An ampere
C. An ohm
D. A watt
- _____ 7. The property of a circuit that hinders the flow of electrons is generally referred to as:
A. Voltage
B. Current
C. Resistance
D. Coulombs

Revised 07/31/2014 FRL(A)



- _____ 8. Electric power is measure in units of:
A. Ohms
B. Volts
C. Watts
D. Amps
- _____ 9. What electrical quantity is measure in ohms?
A. Voltage
B. Power
C. Current
D. Resistance
- _____ 10. What is a conductor?
A. A device used to measure the electricity flowing in a circuit
B. A material that permits electricity to flow through it easily
C. A material that hinders the flow of electricity
D. A device that measures circuit voltage
- _____ 11. A rule concerning voltage for elements connected in parallel is:
A. The voltage is the same across all parallel elements
B. The voltage supplied to parallel elements is equal to the sum of the voltage drops across them
C. The voltage drop across parallel elements is an average of the supply voltage divided by the number of elements
D. The supply voltage is the sum of the reciprocals of the voltage drops across each element
- _____ 12. What two type of circuits are contained within combination circuits?
A. Series and parallel circuits
B. Shorts and grounds
C. Open and closed circuits
D. Shorted elements and open elements
- _____ 13. What three letters represent voltage, current, and resistance in the Ohm's Law formula?
A. W, R, C
B. E, I, R
C. V, R, C
D. V, I, R
- _____ 14. What circuit(s) can combination circuits be reduced to?
A. Neither a simple series nor a simple parallel circuit
B. A simple series circuit
C. A simple parallel circuit
D. Either a simple series or a simple parallel circuit
- _____ 15. The definition of a series circuit is:
A. A circuit that has more than one path for current flow
B. A circuit that contains one hot and one neutral conductor
C. A circuit that has only one path for current flow
D. A circuit that has one conductor grounded



- _____ 16. The voltage rule for series circuit states:
- A. The total voltage is the average of the voltage drops across each resistive element
 - B. The voltage drop is the same across each resistor
 - C. The total voltage is equal to the sum of the reciprocals of the voltage drops across each resistor
 - D. The total voltage is equal to the sum of the voltage drops across each resistor
- _____ 17. The rule for resistance in a series circuit states:
- A. Total resistance is equal to the sum of all the circuit resistors
 - B. Total resistance is equal to the average of the resistance of the circuit resistors
 - C. The resistance of each resistor can be determined by dividing the total resistance by the number of resistors
 - D. The reciprocal of the total resistance is equal to the sum of the reciprocals of each resistor
- _____ 18. The definition of a parallel circuit is:
- A. A circuit that contains only one path for current flow
 - B. A circuit that is used when the current must be the same to all devices connected to it
 - C. A circuit that has more than one path for current flow
 - D. A circuit that is used when the voltage across the connected loads must be an average of the applied voltage
- _____ 19. What is the rule concerning current in a parallel circuit?
- A. The current is the same through all parts of the circuit
 - B. The total circuit current is equal to the sum of the currents through each branch
 - C. The total current is equal to an average of the currents through each branch
 - D. The current through each branch is equal to the total current divided by the number of branches
- _____ 20. How are receptacles on the same branch circuit connected in relationship to each other?
- A. All are connected in series with each other
 - B. Some are connected in series and some are connected in parallel
 - C. All are connected in parallel with each other
 - D. It makes no difference; they can be connected in series or parallel with each other



- _____ 21. How are fuses and circuit breakers connected in relation to the rest of the circuit?
- A. They are connected in parallel with the rest of the circuit
 - B. They are connected in series with the rest of the circuit
 - C. They are connected in series with lighting circuits and in parallel with branches containing receptacles
 - D. They are connected in series with hot conductors and in parallel with neutral
- _____ 22. What are the three basic types of electric circuits?
- A. Open, closed, shorted
 - B. Grounded, shorted, open
 - C. Series, Parallel, Combination
 - D. Single wire, two wire, and three wire

