

Section A. Multiple Choice Questions K (15)

Date: _____

Directions: Place the letter of the correct answer in the space provided.
Each multiple choice question is worth 1 mark.

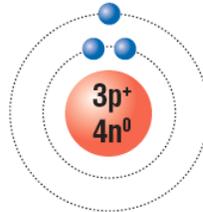
1. Energy is best described as the ability to

- (a) produce voltage
- (b) produce current
- (c) generate static charge
- (d) do work

Answer: _____

2. The electric charge for the atom shown here is

- (a) Positive
- (b) Negative
- (c) Neutral
- (d) None of the above



Answer: _____

Answer: _____

3. Charging an object by contact with a charged object is called

- a) charging by friction
- b) charging by conduction
- c) charging by induction
- d) grounding

Answer: _____

4. A device used to measure voltage is called a(n)

- a) voltmeter
- b) ohmmeter
- c) ammeter
- d) electroscope

Answer: _____

5. Materials that allow charges to move freely on or through them are called:

- (a) Insulators
- (b) Resistors
- (c) Contractors
- (d) Conductors

Answer: _____

6. Which of the following common components in a circuit is a safety feature?

- (a) cell
- (b) resistor
- (c) lamp
- (d) fuse

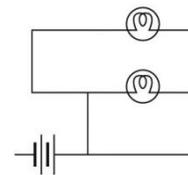
Answer: _____

7. Current is measured in:

- (a) Coulombs
- (b) Volts
- (c) Ohms
- (d) Amperes

Answer: _____

Directions: Use the following information to answer question 8.
The following circuit diagram represents a circuit built by a student



8. The most obvious problem with the circuit is that
- (a) the bulbs are connected in parallel
 - (b) the bulbs are connected in series
 - (c) there is no switch
 - (d) the battery is connected improperly

Answer: _____

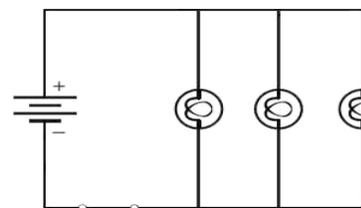
9. A closed switch means that circuit will be
- (a) On
 - (b) Off
 - (c) There is no such thing as a closed switch
 - (d) Broken

Answer: _____

10. The most appropriate unit for reporting the amount of electrical energy used by a family every month would be the?
- (a) watt
 - (b) joule
 - (c) kilowatt-hour
 - (d) volt

Answer: _____

11. The voltage across bulb one in the circuit shown is 3.0V. What is the total voltage of the circuit?
- a) 1.5 V
 - b) 3.0 V
 - c) 4.5 V
 - d) 6.0 V



Answer: _____

12. What does the symbol to the right represent in a circuit diagram?
- a) A lamp
 - b) Voltmeter
 - c) Ammeter
 - d) A motor



Answer: _____

13. Connecting an object to a large body, like Earth, that is capable of effectively removing an electric charge that the object might have is called?
- a) charging by friction
 - b) charging by conduction
 - c) charging by induction
 - d) grounding

Answer: _____

14. When hair sticks to your comb as it is being combed, this is a result of
- a) charging by friction
 - b) charging by conduction
 - c) charging by induction
 - d) grounding

Answer: _____

15. What type of control device does this symbol represent?
- a) open switch
 - b) closed switch
 - c) lamp
 - d) electric motor



Answer: _____

Section B.

True/False K (10)

Directions: Indicate whether the statement is true or false

1. *Neutrons* are positively charged particles.

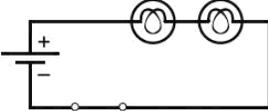
2. Objects that have opposite charges *repel* each other.

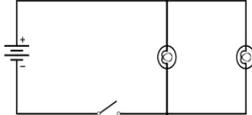
3. *Hydro-electric* energy is the energy of moving ocean water.

4. A circuit *diagram* is a standard way of drawing an electrical circuit.

5. *Insulators* are materials that allow the movement of electrons.

6. The part of an electric circuit that converts electrical energy into other forms of energy is called the *switch*.

7. The circuit diagram shown here is a *series* circuit.


8. The circuit shown here is a *parallel* circuit.


9. A circuit must be turned *on* to measure the current.

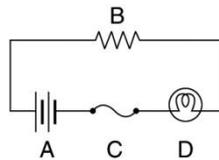
10. If a light bulb burns out in a series circuit, all the bulbs go out.

K (/10)

Section C. Matching Questions K(4) T(4)

Directions: Match the symbols in the diagram choices listed below.

Directions: Use the following information to answer questions 11 to 18.



A student carefully analyzes a circuit and draws the following diagram:

Match each component's name with its symbol, above. **K (4)**

1. _____ lamp
2. _____ battery
3. _____ resistor
4. _____ fuse

Match each component's function with its symbol, above. **T (4)**

5. _____ converts stored chemical energy into electrical energy
6. _____ converts electrical energy to heat and light
7. _____ melts if current levels in the circuit are too high
8. _____ converts electrical energy to heat

T (/4) K (/4)

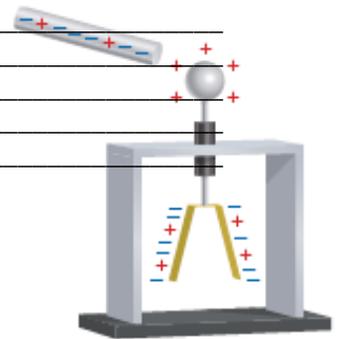
Section D. Questions with Written Answers (16 marks)

Directions: Answer the following questions in complete and meaningful sentences unless otherwise indicated.

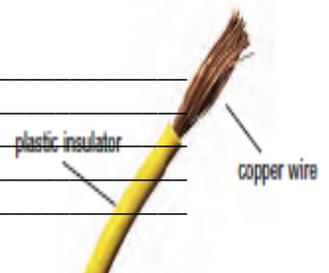
1. Draw a **Series** circuit diagram that contains a 1 cell, a switch, two resistors, and two light bulbs.
A (3)

2. Draw a **Parallel** circuit diagram that contains a 2 cells, a switch, , and two light bulbs, and a volt meter measuring one of the bulbs. A (3)

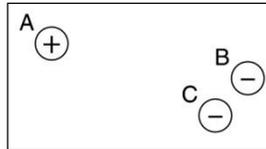
4. Explain why the leaves on this metal leaf electroscope are spread apart. T (2)



5. Explain why wire used in electrical cables must be covered with plastic, as shown in the following figure. T (2)



6. Consider the following three charged objects. Objects A and B are fixed in position, but Object C is free to move.



(a) Will Object C move? Explain your answer. **T (2)**

(b) If you think Object C will move, use an arrow to show its path of movement on the diagram, above. Explain why you think Object C will take the path you have indicated. **T (1)**

10. Describe one method that can be used to generate electricity. Is this method renewable or non-renewable? Should this method be used more or less in your opinion? **T (3)**

Part D: Fill in the Blank

Fill in the blanks using the appropriate term from the word bank. Each word can only be used once, there are extra words. **K (5)**

Like	Electrons	Neutral	Excess
Electroscope	Opposite	Protons	Neutrons

- _____ charges attract
- Electricity is the flow of _____
- A person carrying a negative charge can get a shock if they touch a _____ object
- The negative terminal on a battery has an _____ of electrons
- _____ charges repel

T (/14) A (/6) C (/Level) K (/34)
Total = /54