

Electricity Test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- Resistance is measured in a unit called the _____.
 - ampere
 - coulomb
 - ohm
 - volt
- A path that allows only one route for an electric current is called a _____.
 - parallel circuit
 - parallel current
 - series circuit
 - series current
- Electric charge that has accumulated on an object is referred to as _____.
 - circuit electricity
 - current circuit
 - current electricity
 - static electricity
- A circuit that has two or more branches for electrons to follow is a(n) _____.
 - circuit diagram
 - electron circuit
 - parallel circuit
 - series circuit
- A material through which electrons do NOT easily flow is a(n) _____.
 - conductor
 - fuse
 - insulator
 - transformer
- If the leaves of an electroscope spread apart, it indicates that _____.
 - the leaves of the electroscope are neutral
 - the leaves of the electroscope have received a charge
 - no charge is moving through the electroscope
 - there is static electricity in the electroscope
- Current that does NOT reverse direction is called _____.
 - alternating current
 - circuit current
 - direct current
 - magnetic current
- The location of the strongest magnetic forces is the _____.
 - electromagnets
 - magnetic domains
 - magnetic fields
 - magnetic poles
- Current that reverses direction in a regular pattern is called _____.
 - alternating current
 - circuit current
 - direct current
 - magnetic current
- The function of an electric motor is to change _____.
 - chemical energy to electrical energy
 - electrical energy to chemical energy
 - electrical energy to mechanical energy
 - mechanical energy to electrical energy
- The function of a generator is to change _____.
 - chemical energy to electrical energy
 - electrical energy to chemical energy
 - electrical energy to mechanical energy
 - mechanical energy to electrical energy
- The current that flows in an electric circuit carries _____.
 - chemical energy
 - mechanical energy
 - thermal energy
 - electrical energy

13. Electromagnetic induction is the process of producing an electric current by moving a loop of wire ____.
- through a magnetic field
 - through a magnetic domain
 - around an iron core
 - around a magnetic pole
14. A closed circuit:
- is off.
 - is on.
 - has a break in it.
 - requires no voltage.
15. In an electrical circuit, the term **current** refers to:
- resistance.
 - potential difference.
 - flowing charges.
 - energy loss.
16. Rubbing your feet along the carpet is an example of charging by
- friction
 - conduction
 - induction
17. An exchange of electrons between two objects that are touching is an example of charging by
- ~~friction~~
 - conduction
 - induction
18. An exchange of electrons between two objects that are NOT touching is an example of charging by
- friction
 - conduction
 - induction
19. In a series circuit...
- Voltage and Current are constant
 - Voltage changes, Current is constant
 - Voltage is constant, Current changes
 - Voltage and Current both change
20. In a parallel circuit...
- Voltage and Current are constant
 - Voltage changes, Current is constant
 - Voltage is constant, Current changes
 - Voltage and Current both change
21. A device that increases or decreases voltage in a power line is a ____.
- commutator
 - generator
 - motor
 - transformer
22. The region around a magnet where the magnetic forces act is the ____.
- electromagnetic pole
 - magnetic domain
 - magnetic field
 - magnetic pole
23. Objects that keep their magnetic properties for a long time are called ____.
- electromagnets
 - magnetic domains
 - permanent magnets
 - temporary magnets
24. The atoms in a magnet are ____.
- arranged randomly
 - aligned according to magnetic fields
 - negatively charged
 - positively charged
25. The rate at which an electrical device converts energy from one form to another is called ____.
- electrical energy
 - electrical power
 - electrical resistance
 - voltage regulation
26. All of the following are considered conductors EXCEPT:
- iron.
 - gold.
 - silicon.
 - copper.

27. The ability of an object to resist current is called:
- potential difference.
 - electrical inertia.
 - alternating current.
 - electrical resistance.
28. An ampere is the unit of measurement for:
- electrical power.
 - voltage.
 - current.
 - resistance.

29. The mathematical relationship between current, voltage, and resistance is known as ____ law.
- Kirchoff's
 - Faraday
 - Ohm's
 - Murphy's

Short Answer $V=IR$

30. There is $28\ \Omega$ resistance in a lamp that is plugged into a 110V circuit. How much current is passing through the lamp?

$$I = \frac{V}{R} = \frac{110V}{28\ \Omega} = 3.93A$$

31. A voltmeter would indicate how much voltage if a circuit had 2.5 amperes of current and 65 ohms of resistance passing through it?

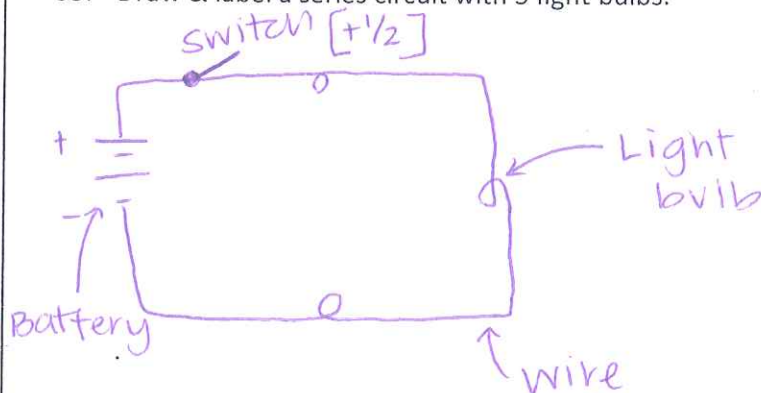
$$V = IR = 2.5A \times 65\ \Omega$$

$$V = 162.5V$$

32. How much resistance would occur in a circuit that had 120V of electricity and 0.85A of current?

$$R = \frac{V}{I} = \frac{120V}{0.85A} = 141.2\ \Omega$$

33. Draw & label a series circuit with 3 light bulbs.



34. Draw & label a parallel circuit with 3 light bulbs.

