

TRUE/FALSE

1. Static electricity is the release of an accumulated charge in some material or object.

ANS: T PTS: 1 REF: 41

2. Neutrons possess no charge and are said to be neutral.

ANS: T PTS: 1 REF: 40

3. Current electricity is the controlled movement of an electrical charge along the atoms of a conductor.

ANS: T PTS: 1 REF: 41

4. The pressure that the electric current exerts on its conductor is known as amperes.

ANS: F PTS: 1 REF: 43

5. A charge is that characteristic of a material which enables it to exert force on another material.

ANS: T PTS: 1 REF: 40

6. When current is manipulated to transmit information, it becomes a circuit.

ANS: F PTS: 1 REF: 42

7. A signal is a closed connection between an electric source and a load over which current may flow.

ANS: F PTS: 1 REF: 42

8. Charged particles either repel or attract each other without ever making physical contact.

ANS: T PTS: 1 REF: 40

9. Resistance is measured in volts.

ANS: F PTS: 1 REF: 44

10. In alternating current (AC), an electrical charge flows steadily in one direction over the conductor.

ANS: F PTS: 1 REF: 47

MODIFIED TRUE/FALSE

1. A material over which electric current readily flows is known as a(n) conductor.

ANS: T PTS: 1 REF: 42

2. Grounding is the use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or absorbed. _____

ANS: T

PTS: 1

REF: 42

3. The pressure that an electric current exerts is known as amperes. _____

ANS: F, voltage

PTS: 1

REF: 43

4. The charge flowing through a wire each second is measured in volts. _____

ANS: F, amperes

PTS: 1

REF: 44

5. Resistance is a material's opposition to electricity. _____

ANS: T

PTS: 1

REF: 44

6. In alternating current, an electrical charge flows steadily in one direction over the conductor.

ANS: F
direct current
DC

PTS: 1

REF: 47

7. In direct current, the electrical charge flows in one direction first, then in the opposite direction, then back in the first direction. _____

ANS: F
alternating current
AC

PTS: 1

REF: 48

8. The term frequency refers to the number of cycles in a sine wave that are completed within a specified time frame. _____

ANS: T

PTS: 1

REF: 48

9. The distance between corresponding points on a cycle is called its wavelength.

ANS: T

PTS: 1

REF: 49

10. Current electricity is the release of an accumulated charge in some material or object.

ANS: F, Static

MULTIPLE CHOICE

1. The characteristic of a material that enables it to exert force on another material is known as:
- a. Charge
 - b. Protons
 - c. Electrons
 - d. Neutrons

ANS: A

PTS: 1

REF: 40

2. Which of the following are found at the center of an atom?
- a. Proton
 - b. Charge
 - c. Neutron
 - d. a and c only

ANS: D

PTS: 1

REF: 40

3. Which of the following is a release of an accumulated charge in some material or object?
- a. Electrostatic charges
 - b. Charge
 - c. Static electricity
 - d. Current electricity

ANS: C

PTS: 1

REF: 41

4. Because the charges inherent in electrons and protons are bound to balance each other through static electricity, these charges are also called:
- a. Current electricity
 - b. Electrostatic charges
 - c. Grounding
 - d. Electric current

ANS: B

PTS: 1

REF: 41

5. Which of the following carries a positive charge?
- a. Neutrons
 - b. Electrons
 - c. Protons
 - d. None of the above

ANS: C

PTS: 1

REF: 40

6. Which of the following refers to the controlled movement of an electrical charge?
- a. Current electricity
 - b. Electrostatic charges
 - c. Static electricity
 - d. Signal

ANS: A

PTS: 1

REF: 41

7. Which of the following is a closed connection between an electric source and a load over which current flows?
- a. Signal
 - b. Circuit
 - c. Conductor
 - d. Grounding

ANS: B

PTS: 1

REF: 42

8. When current is manipulated to transmit information, it becomes:
- a. Signal
 - b. Circuit
 - c. Conductor
 - d. Static electricity

ANS: A

PTS: 1

REF: 42

9. The material over which electric current readily flows is known as:
- a. Signal
 - c. Voltage

ANS: D PTS: 1 REF: 42

10. The use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or absorbed is referred to as:
- a. Resistance
 - b. Voltage
 - c. Grounding
 - d. Circuit

ANS: C PTS: 1 REF: 42

11. The pressure that the electric current exerts on its conductor is known as:
- | | |
|------------|----------|
| a. Voltage | c. Hertz |
| b. Amperes | d. Ohms |

ANS: A PTS: 1 REF: 43

12. Materials that do not allow electric current to flow easily are called:
- | | |
|-------------------|---------------|
| a. Volts | c. Insulators |
| b. Semiconductors | d. Conductors |

ANS: C PTS: 1 REF: 43

13. The charge flowing through a wire each second is referred to as:
- | | |
|---------------|------------|
| a. Resistance | c. Amperes |
| b. Hertz | d. Volts |

ANS: C PTS: 1 REF: 44

14. A material's opposition to current is referred to as:
- a. Resistance
 - b. Amperes
 - c. Ohms
 - d. Capacitance

ANS: A PTS: 1 REF: 44

15. Resistance is measured in:
- a. Amperes
 - b. Hertz
 - c. Volts
 - d. Ohms

ANS: D PTS: 1 REF: 45

16. Which of the following allows an electrical charge to flow steadily in one direction over a conductor?
- | | |
|-------|--------------|
| a. DC | c. Generator |
| b. AC | d. Frequency |

ANS: A PTS: 1 REF: 47

17. Which of the following allows an electrical charge to flow in one direction first, then in the opposite direction, then back in the first direction?
- | | |
|-------|--------------|
| a. DC | c. Generator |
| b. AC | d. Frequency |

ANS: B PTS: 1 REF: 48

18. Which of the following refers to the number of cycles in a sine wave that are completed within a specified time frame?
- a. Generator c. Cycle

ANS: B PTS: 1 REF: 48

19. Which of the following refers to a specific section of a wave, beginning at its starting point, up to its highest amplitude, down to its lowest amplitude, then back to its starting point?

- Cycle
- Frequency
- Generator
- Oscillation

ANS: A PTS: 1 REF: 48

20. Frequency is measured in:

a. Amperes
b. Amplitude
c. Volts
d. Hertz

ANS: D PTS: 1 REF: 48

21. The distance between corresponding points on a cycle is called its:

- Converter
- Wavelength
- Capacitor
- Capacitance

ANS: B PTS: 1 REF: 49

22. A device that changes AC to DC is referred to as:

- Converter
- Generator
- Circuit
- Conductor

ANS: A PTS: 1 REF: 49

23. The ability for an electric circuit to accumulate or store a charge is referred to as:

a. Farads c. Capacitor
b. Capacitance d. Signal

ANS: B PTS: 1 REF: 50

24. Which of the following stores an electrical charge?

- Circuit
- Converter
- Generator
- Capacitor

ANS: D PTS: 1 REF: 50

25. When electrons move, they produce:

a. Electromagnetism c. Electromagnet
b. Magnetic field d. Inductor

ANS: B PTS: 1 REF: 53

26. The magnetic effect produced by an electric current is known as:

- Electromagnetism
- Magnetic field
- Capacitor
- Inductance

ANS: A PTS: 1 REF: 53

27. When used in an electric circuit, a coil of wire is called a(n):

- Electromagnet
- Transformer
- Converter
- Inductor

ANS: D PTS: 1 REF: 54

28. Which of the following is an electrical wave that contains two electromagnetic coils and transfers electric energy from one coil to another?
- a. Converter
 - b. Circuit
 - c. Transformer
 - d. Electromagnet

ANS: C PTS: 1 REF: 56

29. Which of the following measures capacitance?
- a. Hertz
 - b. Volt
 - c. Farad
 - d. Henry

ANS: C PTS: 1 REF: 59

30. Which of the following measures inductance?
- a. Volt
 - b. Ampere
 - c. Henry
 - d. Watt

ANS: C PTS: 1 REF: 59

31. Which of the following measures resistance?
- a. Volt
 - b. Ampere
 - c. Watt
 - d. Ohm

ANS: D PTS: 1 REF: 59

32. Which of the following measures Power?
- a. Volts
 - b. Watt
 - c. Farad
 - d. Ohm

ANS: B PTS: 1 REF: 59

33. Which of the following measures frequency?
- a. Watt
 - b. Henry
 - c. Hertz
 - d. Ohm

ANS: C PTS: 1 REF: 59

34. Which of the following is a component that contributes no power gain to a circuit?
- a. Passive device
 - b. Active device
 - c. Diode
 - d. Transistor

ANS: A PTS: 1 REF: 61

35. An electronic component that allows current to flow in only one direction is referred to as:
- a. Transistor
 - b. Diode
 - c. Resistor
 - d. Circuit

ANS: B PTS: 1 REF: 63

YES/NO

1. Are protons found at the center of an atom?

ANS: Y PTS: 1 REF: 40

2. Is the term conductor used to describe a material over which current flows?

ANS: Y PTS: 1 REF: 42

3. Is voltage measured in amperes?

ANS: N PTS: 1 REF: 43

4. Can you use the words current electricity and electric current interchangeably?

ANS: Y PTS: 1 REF: 41

5. Is resistance measured in volts?

ANS: N PTS: 1 REF: 45

6. Does the term capacitance refer to the number of cycles in a sine wave that are completed within a specified time frame?

ANS: N PTS: 1 REF: 48

7. Are electrons found at the center of an atom?

ANS: N PTS: 1 REF: 40

8. Does the term electromagnetic refer to a wave that contains a combination of electric and magnetic forces?

ANS: Y PTS: 1 REF: 56

9. When current is manipulated to transmit information, does it become a signal?

ANS: Y PTS: 1 REF: 42

10. Does a voltmeter measure the resistance of a circuit?

ANS: N PTS: 1 REF: 60

COMPLETION

1. A(n) _____ is the characteristic of a material that enables it to exert force on another material.

ANS: charge

PTS: 1 REF: 40

2. _____ is the release of an accumulated charge in some material or object.

ANS: Static electricity

PTS: 1 REF: 41

3. Because the charges inherent in electrons and protons are bound to balance each other through static electricity, these charges are also called _____.

ANS: electrostatic charges

PTS: 1 REF: 41

4. _____ is the controlled movement of an electrical charge along the atoms of a conductor.

ANS:

Current electricity

Electric current

PTS: 1 REF: 41

5. A(n) _____ is a closed connection between an electric source and a load over which current may flow.

ANS: circuit

PTS: 1 REF: 42

6. A material over which electric current readily flows is known as a(n) _____.

ANS: conductor

PTS: 1 REF: 42

7. When current is manipulated to transmit information, it becomes a(n) _____.

ANS: signal

PTS: 1 REF: 42

8. _____ is the use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or absorbed.

ANS: Grounding

PTS: 1 REF: 42

9. The pressure that an electric current exerts on its conductor is known as _____.

ANS: voltage

PTS: 1 REF: 43

10. _____ is a material's opposition to electric current.

ANS: Resistance

PTS: 1 REF: 44

MATCHING

Match each correct item with the statement below.

- | | |
|-----------------------|---------------|
| a. Static electricity | f. Circuit |
| b. Grounding | g. Insulators |
| c. Voltage | h. Neurons |
| d. Resistance | i. Amperes |
| e. Conductor | j. Signal |

1. Possess no charge and are said to be neutral.
2. The release of an accumulated charge in some material or object.
3. A closed connection between an electric source and a load over which current may flow.
4. When current is manipulated to transmit information.
5. A material over which electric current readily flows.
6. The use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or fully absorbed.
7. The pressure that the electric current exerts on it conductor.
8. Materials that do not allow electric current to flow easily.
9. A material's opposition to electric current.
10. Measures current.

- | | | |
|------------|--------|---------|
| 1. ANS: H | PTS: 1 | REF: 40 |
| 2. ANS: A | PTS: 1 | REF: 41 |
| 3. ANS: F | PTS: 1 | REF: 42 |
| 4. ANS: J | PTS: 1 | REF: 42 |
| 5. ANS: E | PTS: 1 | REF: 42 |
| 6. ANS: B | PTS: 1 | REF: 42 |
| 7. ANS: C | PTS: 1 | REF: 43 |
| 8. ANS: G | PTS: 1 | REF: 43 |
| 9. ANS: D | PTS: 1 | REF: 44 |
| 10. ANS: I | PTS: 1 | REF: 44 |

SHORT ANSWER

1. The release of an accumulated charge in some material or object is called:

ANS:
Static electricity

PTS: 1 REF: 41

2. What is the name given to a closed connection between an electric source and a load over which current flows?

ANS:
Circuit

PTS: 1 REF: 42

3. When current is manipulated to transmit information, what is the term used to describe it?

ANS:
Signal

PTS: 1

REF: 42

4. What is the term used to describe a material over which electric current readily flows?

ANS:
Conductor

PTS: 1

REF: 42

5. What is commonly equated to the strength of an electric current?

ANS:
Voltage

PTS: 1

REF: 43

6. What is the term used to refer to a material's opposition to current?

ANS:
Resistance

PTS: 1

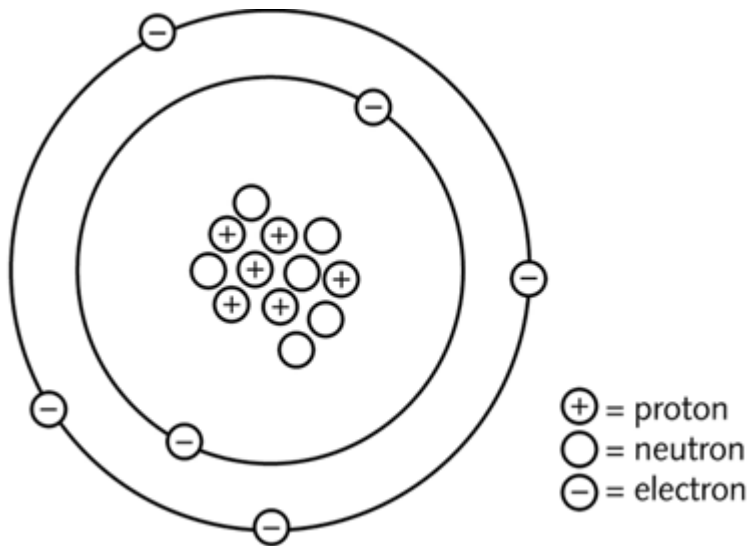
REF: 44

7. What is resistance measured in?

ANS:
Ohms

PTS: 1

REF: 45



8. According to the figure above, what is found at the center of an atom?

ANS:

Protons and neutrons

PTS: 1

REF: 40

9. What term is used to refer to the number of cycles in a sine wave that are completed within a specified time frame?

ANS:

Frequency

PTS: 1

REF: 48