

Electromagnetism Essentials

Physics · Practice Test · 15 Questions

1. What is the primary unit of measurement for electrical resistance?

- A) Volt
- B) Ampere
- C) Ohm
- D) Watt

2. Which subatomic particle carries a negative electric charge?

- A) Proton
- B) Electron
- C) Neutron
- D) Positron

3. What device is used to transform voltage levels in an alternating current circuit?

- A) Generator
- B) Transformer
- C) Resistor
- D) Capacitor

4. Magnetic field lines outside a bar magnet always point from which pole to which pole?

- A) South to North
- B) North to South
- C) East to West
- D) West to East

5. What is the standard unit of electric current?

- A) Coulomb
- B) Watt
- C) Ampere
- D) Joule

6. Which material is commonly used as a semiconductor in computer chips?

- A) Copper
- B) Silicon
- C) Gold
- D) Plastic

7. What do moving electric charges create in the space surrounding them?

- A) Gravity
- B) Sound waves
- C) Magnetic fields
- D) Thermal insulation

8. What is the force between two stationary electric charges described by?

- A) Coulomb's Law
- B) Ohm's Law
- C) Faraday's Law
- D) Newton's Law

9. Which of these is a common magnetic metal?

- A) Aluminum
- B) Iron
- C) Copper
- D) Gold

10. What type of current flows in only one direction?

- A) Alternating current
- B) Direct current
- C) Radio current
- D) Static current

11. What is the relationship between electric power, voltage, and current?

- A) $P = V / I$
- B) $P = I / V$
- C) $P = V * I$
- D) $P = V + I$

12. Which device converts mechanical energy into electrical energy?

- A) Battery
- B) Generator
- C) Switch
- D) Fuse

13. What phenomenon occurs when a changing magnetic field induces an electric current in a conductor?

- A) Electromagnetic induction
- B) Electrostatic discharge
- C) Magnetic saturation
- D) Thermal expansion

14. In a simple circuit, what prevents excessive current from flowing and damaging components?

- A) Switch
- B) Resistor
- C) Battery
- D) Capacitor

15. What is the primary function of a fuse in an electrical circuit?

- A) Store energy
- B) Increase voltage
- C) Protect against overcurrent
- D) Convert AC to DC