

Fundamentals of Electrical Engineering

Electrical Engineering · Answer Key · 25 Questions

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

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

2. Which law defines the relationship between voltage, current, and resistance?

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

3. Which material is most commonly used as a conductor in electrical wiring?

- A) Plastic
- B) Glass
- C) Copper**
- D) Rubber

4. What does a capacitor store?

- A) Magnetic fields
- B) Electric charge**
- C) Current flow
- D) Resistance

5. Which device is used to measure electrical current in a circuit?

- A) Voltmeter
- B) Ohmmeter
- C) Ammeter**
- D) Oscilloscope

6. In a DC circuit, what does the abbreviation 'DC' stand for?

- A) Direct Current**
- B) Digital Charge
- C) Dual Connection
- D) Dynamic Circuit

7. What is the primary function of a resistor in an electrical circuit?

- A) Increase voltage
- B) Store charge
- C) Limit current flow**
- D) Generate power

8. Which of the following is an insulator?

- A) Copper
- B) Gold
- C) Aluminum
- D) Rubber**

9. What does an LED stand for?

- A) Light Emitting Diode**
- B) Light Electrical Device
- C) Long Energy Duration
- D) Line Electronic Data

10. What is the unit of electrical power?

- A) Joule
- B) Watt**
- C) Coulomb
- D) Hertz

11. Which subatomic particle carries a negative charge?

- A) Proton
- B) Neutron
- C) Electron**
- D) Ion

12. What is the standard unit of electrical potential difference?

- A) Volt**
- B) Ampere
- C) Ohm
- D) Farad

13. In an AC circuit, what does 'AC' stand for?

- A) Active Circuit
- B) Alternating Current**
- C) Advanced Connection
- D) Analog Charge

14. Which component is designed to break a circuit when current becomes too high?

- A) Resistor
- B) Capacitor
- C) Fuse**
- D) Inductor

15. What is the frequency of standard electrical power in Australia?

- A) 50 Hz**
- B) 60 Hz
- C) 100 Hz
- D) 120 Hz

16. What device increases or decreases AC voltage?

- A) Generator
- B) Transformer**
- C) Motor
- D) Battery

17. What is the material that resists the flow of electricity called?

- A) Conductor
- B) Insulator**
- C) Semiconductor
- D) Superconductor

18. Which law states that the current entering a junction equals the current leaving it?

- A) Ohm's Law
- B) Kirchhoff's Current Law**
- C) Faraday's Law
- D) Ampere's Law

19. What represents the flow of electric charge?

- A) Voltage
- B) Current**
- C) Resistance
- D) Power

20. Which component stores energy in a magnetic field?

- A) Capacitor
- B) Resistor
- C) Inductor**
- D) Diode

21. What is the common term for a complete path through which electricity flows?

- A) Circuit**
- B) Voltage
- C) Resistance
- D) Power

22. Which element is primarily used in the manufacturing of transistors?

- A) Iron
- B) Silicon**
- C) Oxygen
- D) Gold

23. What instrument is used to visualize electrical signals over time?

- A) Multimeter
- B) Oscilloscope**
- C) Wattmeter
- D) Ammeter

24. In electrical terms, what is 'potential difference' commonly referred to as?

- A) Current
- B) Resistance
- C) Voltage**
- D) Inductance

25. Which of these is a unit of electrical energy consumption?

- A) Kilowatt-hour**
- B) Volt-ampere
- C) Ohm-meter
- D) Henry