

UNIT 3: WIRING, GROUNDING AND SAFETY

1. **Which of the following is the most commonly used material for electrical wiring?**
 - a) Aluminum
 - b) Copper
 - c) Iron
 - d) Steel
2. **What is the purpose of grounding in electrical systems?**
 - a) To prevent electric shock
 - b) To ensure a complete circuit
 - c) To maintain the balance of electrical currents
 - d) To increase voltage
3. **What is the most commonly used method of wiring in residential buildings?**
 - a) Conduit wiring
 - b) Surface wiring
 - c) Cables
 - d) Open wiring
4. **What is the main purpose of a fuse in an electrical circuit?**
 - a) To prevent overload
 - b) To protect from electric shock
 - c) To regulate current
 - d) To maintain constant voltage
5. **What is the earth resistance of a good earthing system?**
 - a) Below 1 Ω
 - b) Below 5 Ω
 - c) Below 10 Ω
 - d) Below 15 Ω
6. **Which of the following is a primary cause of electrical accidents?**
 - a) Faulty wiring
 - b) Overloading of circuits
 - c) Lack of grounding
 - d) All of the above
7. **What is the correct term for wiring laid on the surface of walls and ceilings?**
 - a) Concealed wiring
 - b) Surface wiring

- c) Taped wiring
- d) Buried wiring

8. What is a Residual Current Device (RCD) used for?

- a) To prevent electrical fires
- b) To protect against electric shock
- c) To monitor voltage fluctuation
- d) To prevent circuit overload

9. What is the function of a grounding electrode in an electrical system?

- a) To provide a path for current to return to the ground
- b) To store electrical energy
- c) To generate electrical power
- d) To reduce the current flow

10. In residential wiring, which color is typically used for earth conductors?

- a) Blue
- b) Green
- c) Red
- d) Black

11. The overcurrent protection device in a circuit is usually a:

- a) Fuse
- b) Breaker
- c) Earth leakage circuit breaker
- d) All of the above

12. What is the main function of a circuit breaker?

- a) To break the circuit during faults
- b) To increase the current
- c) To regulate voltage
- d) To control current

13. What is the maximum allowable voltage drop in a residential wiring system?

- a) 5%
- b) 10%
- c) 15%
- d) 20%

14. Which of the following types of wiring involves the use of conduits?

- a) Surface wiring
- b) Concealed wiring

- c) Taped wiring
- d) Buried wiring

15. What type of wiring system is generally used in high-rise buildings?

- a) Surface wiring
- b) Concealed wiring
- c) Open wiring
- d) None of the above

16. What does the abbreviation "RCD" stand for?

- a) Residual Current Device
- b) Radio Current Device
- c) Remote Current Device
- d) Reversible Current Device

17. The purpose of earthing is to:

- a) Prevent electrical shock
- b) Provide a return path for current
- c) Ensure the stability of voltage levels
- d) Both a and b

18. What is the primary purpose of a fuse in a circuit?

- a) Prevent overloading
- b) Reduce voltage drop
- c) Limit current flow
- d) Protect electrical appliances

19. Which of the following is the correct color code for the live wire in a three-phase system?

- a) Blue
- b) Red
- c) Yellow
- d) Green

20. What does an Earth Leakage Circuit Breaker (ELCB) protect against?

- a) Overcurrent
- b) Short circuits
- c) Leakage currents
- d) Voltage spikes