

Chapter 01: Electrical Safety

True / False

1. One of the most important tasks that a service technician must learn is how to safely work around equipment when the power is being supplied to the equipment.

a. True

b. False

ANSWER: True

2. Electrical shock occurs when a person becomes part of an electrical circuit.

a. True

b. False

ANSWER: True

3. When electricity passes through the body, the results can range from death to a slight, uncomfortable stinging sensation, depending upon the amount of electricity that passes through the body, the path the electricity takes, and the amount of time that the electricity flows.

a. True

b. False

ANSWER: True

4. When assisting a person who is in contact with an electrical source, it is generally safe to touch him or her.

a. True

b. False

ANSWER: True

5. Wearing rings, watches, or other jewelry when working in close proximity to live electrical circuits is generally considered a safe practice.

a. True

b. False

ANSWER: True

6. Do not use metal ladders when working near live electrical circuits.

a. True

b. False

ANSWER: True

Completion

7. A(n) _____ circuit is one that is being supplied with electrical energy.

ANSWER: live electrical

8. The electrical energy supplied to an electrical circuit is called _____, and it is measured in volts.

ANSWER: electromotive force

9. When electricity flows near or through the heart for only a short period of time, it can cause _____ of the heart, in which the heart only flutters instead of beats.

ANSWER: ventricular fibrillation

10. In a case of ventricular fibrillation, unless the heart is returned to normal quickly, the person will usually _____.

ANSWER: die

11. A current flow through the body of _____ ampere or less can be fatal.

ANSWER: 0.015

12. A(n) _____ is a device that permits the connection of a three-prong plug to a two-prong receptacle.

ANSWER: grounding adapter

13. When working with electricity, always wear shoes with a(n) _____ sole and heel.

ANSWER: insulating

14. Discharge all capacitors with a(n) _____ ohm, four-watt resistor before touching the terminals.

ANSWER: 20,000

Subjective Short Answer

15. When a person is assisting an electrical shock victim, what is the first concern?

ANSWER: The first concern when assisting an electrical shock victim who is still in contact with an electrical source is personal safety.

16. What is the purpose of the National Electric Code®?

ANSWER: The National Electric Code® specifies the minimum standards that must be met for the safe installation of electrical systems.

17. What is the purpose of a ground wire?

ANSWER: The ground wire is used in an electrical circuit to allow current to flow back

through the ground instead of through a person and causing electrical shock.

18. What is the purpose of a GFCI?

ANSWER: A ground fault circuit interrupter (GFCI) is an electrical device that will open the circuit, preventing current flow to the receptacle when a small electrical leak to ground is detected.

19. What are the two most common methods of circuit protection in structures?

ANSWER: The two most common methods of circuit protection in structures are fuses and circuit breakers.

20. Explain why circuit lockout is used.

ANSWER: Circuit lockout is a procedure that is used to interrupt the power supply to an electrical circuit or equipment.