

Chapter 7-I: Electricity & Electrical Safety

Chapter Test

Multiple Choice | Esthetics Program

Name: _____ Date: _____ Score: _____ / 49

Instructions: Circle the letter of the best answer. Each question is worth 1 point. Answer all 49 questions.

Section 1: Electrical Theory

Current, conductors, and circuits | Questions 1–8

1. Electricity is the: **△ TRICKY**
 - a) Burning of fuel
 - b) Use of magnets only
 - c) Movement of electrons (particles) along a path
 - d) Flow of water
2. A conductor is a material that:
 - a) Easily carries electric current
 - b) Blocks all current
 - c) Stores water
 - d) Resists current
3. A nonconductor (insulator) is a material such as:
 - a) Copper
 - b) Rubber or glass
 - c) Aluminum
 - d) Iron
4. A complete electric circuit is:
 - a) A type of fuse
 - b) A broken wire
 - c) A measurement
 - d) The complete path of current from and back to the source
5. Direct current (DC) is: **△ TRICKY**
 - a) Always 120 volts
 - b) Constant and flows in one direction
 - c) Rapid and interrupted
 - d) Only found in outlets
6. Alternating current (AC) is:
 - a) Rapid current that reverses direction
 - b) A resistance unit
 - c) A safety device
 - d) Constant one-direction flow
7. A rectifier changes: **△ TRICKY**
 - a) Volts to ohms
 - b) DC to AC
 - c) Watts to amps
 - d) AC to DC

8. Galvanic current is an example of:

- a) Direct current
- b) Alternating current
- c) Light energy
- d) A fuse

Section 2: Electrical Measurements

Units of electricity | *Questions 9–15*

9. A volt measures: **△ TRICKY**

- a) The pressure/force that pushes current
- b) Current strength
- c) Energy used
- d) Resistance

10. An ampere measures:

- a) Resistance
- b) The strength/rate of the current
- c) Energy used
- d) Pressure

11. A milliampere is:

- a) 1,000 amps
- b) A resistance unit
- c) A type of plug
- d) One one-thousandth of an ampere

12. An ohm measures:

- a) Current strength
- b) Energy used
- c) Resistance to current
- d) Pressure

13. A watt measures:

- a) Current direction
- b) Resistance
- c) How much electrical energy is being used
- d) Pressure

14. A kilowatt equals: **△ TRICKY**

- a) One volt
- b) One amp
- c) 100 watts
- d) 1,000 watts

15. Standard U.S. wall outlets supply about: **△ TRICKY**

- a) 12 volts
- b) 12 amps
- c) 120 volts
- d) 1,000 watts

Section 3: Safety Devices

16. A fuse: **△ TRICKY**
- a) Stores energy
 - b) Increases current
 - c) Melts/breaks the circuit when too much current flows
 - d) Boosts voltage
17. If a fuse melts, it means:
- a) Too little current flowed
 - b) The lights got brighter
 - c) Excessive current was prevented from passing through the circuit
 - d) The voltage dropped to zero
18. A circuit breaker: **△ TRICKY**
- a) Is a switch that interrupts the circuit and can be reset
 - b) Cannot be reset
 - c) Increases amperage
 - d) Melts permanently
19. If several appliances on one circuit suddenly stop, likely the:
- a) Volt failed
 - b) Ohm melted
 - c) Light spectrum changed
 - d) Circuit breaker shut off to protect the building
20. A three-prong plug is evidence of: **△ TRICKY**
- a) Fusing
 - b) Grounding
 - c) Amping
 - d) Breaking
21. A GFI (GFCI) is designed to:
- a) Measure resistance
 - b) Convert DC to AC
 - c) Instantly cut power when it senses a fault, especially near water
 - d) Increase current
22. 'UL' on a device indicates it has been:
- a) Tested for safety by Underwriters Laboratories
 - b) Used and Logged
 - c) Under Load
 - d) Universally Licensed

Section 4: Safe Use of Equipment

23. You should unplug an appliance by: **△ TRICKY**
- a) Yanking from a distance
 - b) Pulling the cord
 - c) Twisting the cord
 - d) Grasping and pulling the plug
24. A client connected to an electrical device should be:

- a) Moved to another room
 - b) Given the controls
 - c) Left alone to relax
 - d) Never left unattended
25. To avoid overloading, you should:
- a) Not overload outlets or circuits
 - b) Use damaged cords
 - c) Cover cords with rugs
 - d) Plug many devices into one outlet
26. Cords should be:
- a) Kept off the floor and out of water
 - b) Run across walkways
 - c) Stepped on to flatten
 - d) Twisted tightly
27. A sparking appliance or outlet should be: **⚠ TRICKY**
- a) Used carefully
 - b) Not used until repaired by a professional
 - c) Wrapped in tape
 - d) Used near water
28. You should never:
- a) Use a GFI
 - b) Inspect equipment
 - c) Touch two metal objects at once while a device is powered
 - d) Read the manual

Section 5: Modalities & Light Energy

Currents in services and the spectrum | Questions 29–34

29. An electrode is:
- a) An applicator that conducts current to the skin
 - b) A type of fuse
 - c) A light wave
 - d) A resistance unit
30. Which is an electrotherapy modality? **⚠ TRICKY**
- a) Tesla high-frequency current
 - b) Tapotement
 - c) Effleurage
 - d) Distillation
31. Tesla high-frequency current is valued for being:
- a) Cooling
 - b) Germicidal and stimulating
 - c) Numbing
 - d) Product-injecting
32. Iontophoresis, cataphoresis, and anaphoresis are associated with: **⚠ TRICKY**
- a) Galvanic current
 - b) High frequency

- c) Light therapy
- d) Fuses

33. The electromagnetic spectrum includes:
- a) Only visible light
 - b) Only electricity
 - c) Both visible and invisible light (UV, infrared)
 - d) Only sound
34. Visible light is:
- a) The entire spectrum
 - b) A small portion of the electromagnetic spectrum
 - c) The same as UV
 - d) Invisible

Section 6: Theory Applied

Putting electrical concepts together | Questions 35–42

35. Silk, rubber, and glass are examples of: **⚠ TRICKY**
- a) Circuits
 - b) Conductors
 - c) Nonconductors (insulators)
 - d) Currents
36. Copper wire is used in cords because it is a good:
- a) Insulator
 - b) Resistor
 - c) Fuse
 - d) Conductor
37. For current to flow, you must have a:
- a) Complete circuit
 - b) Melted fuse
 - c) Single prong
 - d) Broken wire
38. A battery supplies which kind of current? **⚠ TRICKY**
- a) Alternating
 - b) Direct
 - c) Faradic
 - d) Tesla
39. Household outlets supply which kind of current?
- a) Alternating
 - b) Static
 - c) Direct
 - d) Galvanic
40. A converter changes: **⚠ TRICKY**
- a) AC to DC
 - b) Volts to watts
 - c) DC to AC
 - d) Ohms to amps

41. The amount of 'push' behind a current is measured in:
- a) Watts
 - b) Amps
 - c) Ohms
 - d) Volts
42. Resistance to the flow of current is measured in:
- a) Watts
 - b) Amps
 - c) Ohms
 - d) Volts

Section 7: Safety Scenarios

Recognizing and preventing hazards | Questions 43–49

43. If you see sparks at an outlet, you should: **△ TRICKY**
- a) Pour water on it
 - b) Cover it with tape
 - c) Keep using it
 - d) Stop using it and have it inspected/repared
44. Cords running across a walkway should be:
- a) Bundled tightly
 - b) Rerouted off the floor to prevent tripping/damage
 - c) Left in place
 - d) Taped flat and stepped on
45. Before plugging in a device, you should: **△ TRICKY**
- a) Wet your hands
 - b) Overload the outlet
 - c) Inspect the cord and plug for damage
 - d) Remove the ground prong
46. You should never operate electrical devices with:
- a) Dry hands
 - b) A GFI outlet
 - c) UL approval
 - d) Wet hands or near standing water
47. Overloading a single circuit can cause:
- a) A tripped breaker or fire hazard
 - b) Better performance
 - c) Lower bills
 - d) More grounding
48. A device's metal parts and a second metal object should not be touched together when: **△ TRICKY**
- a) Unplugged
 - b) It is grounded
 - c) It is UL listed
 - d) The device is powered on
49. Removing lint from dryers and checking fire extinguishers are part of:
- a) Color theory

- b)** Routine electrical/fire safety
- c)** Massage protocol
- d)** Product mixing

— *End of Test (49 questions)* —