

**Continuing Education, For UDC Electrical Inspectors, Commercial Electrical Inspectors, Master Electricians and Journeyman Electricians.**

**The following test is for Continuing Education Credits for the above-mentioned Licenses and Credentials, All answers are found in the 2008 NEC. Please call Brett at (920) 740-4348 with any questions or concerns with this or any other issue you may have.**

**All questions have a correct answer that can be found in the codebook, when your test is completed read the information at the bottom of the page and send the proper items in to obtain your credit.**

## Electrical Continuing Ed Test 2

### **Article 100: Definitions**

1. \_\_\_\_\_ means the current, in amperes, that a conductor can carry continuously under the conditions of use without exceeding its temperature rating.
  - a. Resistance
  - b. Joule Heating
  - c. Ampacity
  - d. Current Rating
  
2. \_\_\_\_\_ means a generic term for a group of noninflammable synthetic chlorinated hydrocarbons used as electrical insulating media.
  - a. Askarel
  - b. Plenum
  - c. Mineral Oil
  - d. Regulator
  
3. \_\_\_\_\_ means connected to establish electrical continuity and conductivity.
  - a. Bonding
  - b. Branch Circuit
  - c. Electrically Isolated
  - d. Insulated Conductor
  
4. \_\_\_\_\_ means without live parts exposed to a person on the operating side of the equipment.
  - a. Double Ended Switchboard
  - b. Disconnecting Means
  - c. Fusible Switch
  - d. Dead Front
  
5. \_\_\_\_\_ means capable of being operated without exposing the operator to contact with live parts.
  - a. Laterally Operable
  - b. Internally Operable
  - c. Externally Operable
  - d. Linearly Operable
  
6. \_\_\_\_\_ means any shaftway, hatchway, well hole, other vertical opening or space in which an elevator or dumbwaiter is designed to operate.
  - a. Handhole Enclosure
  - b. Nonlinear Load
  - c. Hoistway
  - d. Receptacle

7. \_\_\_\_\_ means a conductor used to connect the system grounded conductor or the equipment to a grounding electrode or to a point on the grounding electrode system.

- a. Multiwire Conductor
- b. Grounding Electrode Conductor
- c. Macroscopic Conductor
- d. Microscopic Conductor

8. \_\_\_\_\_ means a device that provides a means for connecting communication system(s) grounding conductor(s) and bonding conductor(s) at the service equipment or at the disconnecting means for buildings or structures by a feeder or branch circuit.

- a. Isolated Bonding Termination
- b. Insulated Bonding Termination
- c. Intrasystem Bonding Termination
- d. Intersystem Bonding Termination

9. \_\_\_\_\_ means energized conductive components.

- a. Live Parts
- b. Overload
- c. Overcurrent
- d. Neutral Conductor

10. \_\_\_\_\_ means a compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.

- a. Plenum
- b. Twisted Pair
- c. Coaxial Cable
- d. Service Drop

11. \_\_\_\_\_ means a fuse with provision for the escape of arc gases, liquids, or solid particles to the surrounding atmosphere during circuit interruption.

- a. Power Fuse Unit
- b. Vented Power Fuse
- c. Expulsion Fuse Unit
- d. Nonvented Power Fuse

12. \_\_\_\_\_ means constructed or protected so that exposure to the weather will not interfere with successful operation.

- a. Watertight
- b. Airtight
- c. Weatherproof
- d. Ventilated

13. \_\_\_\_\_ means complete wiring installations shall be free from short circuits, ground faults, or any connections to ground other than as required or permitted elsewhere in this code.

- a. Interconnect Technology
- b. Circuit Impedance
- c. Interrupting Rating
- d. Wiring Integrity

14. \_\_\_\_\_ means parts of electrical equipment that in ordinary operation produce arcs, sparks, flames, or molten metal shall be enclosed or separated and isolated from all combustible material.

- a. Flash Protection
- b. Arcing Parts
- c. High Leg Marking
- d. Relays

15. \_\_\_\_\_ means any electrical circuit that energizes signaling equipment.

- a. Show Window
- b. Signaling Circuit
- c. Service Point
- d. Surge Arrester

#### **Article 110: Requirements for Electrical Installations**

16. Unless identified for use in the operating environment, no conductors or equipment shall be located in \_\_\_\_\_ or \_\_\_\_\_ locations; where exposed to gases, fumes, vapors, liquids, or other agents that have a deteriorating effect on the conductors or equipment; or where exposed to excessive temperatures.

- a. dry; parched
- b. dry; wet
- c. ground; plenum
- d. damp; wet

17. Unused openings shall be closed to afford protection substantially equivalent to the wall of the equipment *other than those intended for:*

- a. the operation of equipment
- b. mounting purposes
- c. (permitted as part of) the design for listed equipment
- d. all of the above

18. Electrical equipment shall be firmly secured to the surface on which it is mounted. \_\_\_\_\_ driven into holes in masonry, concrete, plaster, or similar materials shall not be used.

- a. Wooden Plugs
- b. Metal Wall Plugs
- c. Toggle Bolts
- d. Fiber Plugs

19. Conductors shall be spliced or joined with splicing devices identified for the use or by brazing , welding, or soldering with a \_\_\_\_\_ metal or alloy.

- a. Nonfusible
- b. Fusible
- c. Similar
- d. Dissimilar

20. The temperature rating associated with the ampacity of a conductor shall be selected and coordinated so as not to exceed the \_\_\_\_\_ temperature rating of any connected termination, conductor, or device.

- a. highest
- b. lowest
- c. same
- d. different

21. Enclosures (other than surrounding fences or walls) of switchboards, panelboards, industrial control panels, motor control centers, meter sockets, and motor controllers, rated not over \_\_\_\_\_volts nominal and intended for such locations, shall be marked with an enclosure-type number as shown in Table 110.20.

- a. 600
- b. 400
- c. 200
- d. 100

22. Electrical equipment rooms or enclosures housing electrical apparatus that are controlled by a \_\_\_\_\_ shall be considered accessible to qualified persons.

- a. Key
- b. Security Device
- c. Latch
- d. Lock

23. At least \_\_\_\_\_ entrance(s) to enclosures for electrical installations as described in 110.31 not less than 610 mm wide and 2.0 high shall be provided to give access to the working space about electrical equipment.

- a. Several
- b. Two
- c. Three
- d. None of the above

24. Each disconnecting means shall be \_\_\_\_\_ marked to indicate its purpose unless located and arranged so the purpose is evident.

- a. boldly
- b. carefully
- c. quickly
- d. legibly

25. Conductors and cables in tunnels shall be located above the tunnel floor and so placed or guarded to protect them from \_\_\_\_\_ damage.

- a. Cold
- b. Physical
- c. Heat
- d. Blunt

26. High-voltage conductors in tunnels shall be installed in:

- a. Metal Conduit and Other Metal Raceway
- b. Type MC Cable or Other Approved Multiconductor Cable
- c. Both a and b
- d. None of the above

27. All non-current-carrying metal parts of electrical equipment and all metal raceways and cable sheaths shall be \_\_\_\_\_ grounded and bonded to all metal pipes and rails at the portal and at intervals not exceeding 300 m throughout the tunnel.

- a. Adequately
- b. Strongly
- c. Firmly
- d. Solidly

28. Enclosures for use in \_\_\_\_\_ shall be dripproof, weatherproof, or submersible as required by the environmental conditions.

- a. Hoistways
- b. Plenums
- c. Tunnels
- d. Elevators

29. Manhole openings for personnel shall be located where they are not directly above electrical equipment or conductors in the enclosure. Where this is not practicable, either a protective barrier or a fixed \_\_\_\_\_ shall be provided.

- a. Ladder
- b. Cover
- c. Vault
- d. Cable

30. Covers shall be over \_\_\_\_\_ pounds or other wise designed to require the use of tools to open.

- a. 50
- b. 75
- c. 100
- d. 125

31. \_\_\_\_\_ means utilization equipment, generally other than industrial, that is normally built in standardized sizes or types and is installed or connected as a unit to perform one or more functions such as clothes washing, air conditioning, food mixing, deep frying, and so forth.

- a. Machinery
- b. Device
- c. Appliance
- d. All of the above

32. \_\_\_\_\_ means acceptable to the authority having jurisdiction.

- a. Approved
- b. Standardized
- c. Uniform
- d. Accredited

33. \_\_\_\_\_ means a device that, by insertion in a receptacle, establishes a connection between the conductors of the attached flexible cord and the conductors connected permanently to the receptacle.

- a. Adapter
- b. Interface
- c. Attachment Plug
- d. Receptacle

34. \_\_\_\_\_ means self-acting, operating by its own mechanism when actuated by some impersonal influence, as, for example, a change in current, pressure, temperature, or mechanical configuration.

- a. Mechanical
- b. Automatic
- c. Programmed
- d. Voluntary

35. \_\_\_\_\_ means a reliable conductor to ensure the required electrical conductivity between metal parts required to be electrically connected.

- a. Equipment Grounding Conductor
- b. Stingers
- c. Bonding Jumper
- d. None of the above

36. \_\_\_\_\_ means the circuit conductors between the final overcurrent device protecting the circuit and the outlet (s).

- a. Branch Circuit
- b. Simple Series Circuit
- c. Parallel Circuit
- d. Combination Circuit

37. \_\_\_\_\_ means a branch circuit that supplies two or more receptacles or outlets for lighting and appliances.

- a. Branch Circuit, Multiwire
- b. Branch Circuit, General-Purpose
- c. Branch Circuit, Individual
- d. Branch Circuit, Appliance

38. \_\_\_\_\_ means a device designed to open and close a circuit by nonautomatic means and to open the circuit automatically on a predetermined overcurrent without damage to itself when properly applied within its rating.

- a. Short Circuit
- b. Switchgear
- c. Fuse
- d. Circuit Breaker

39. The automatic opening means can be integral, direct acting with the circuit breaker, or remote from the circuit breaker.

- a. True
- b. False

40. (As applied to circuit breakers) \_\_\_\_\_ means a qualifying term indicating that no delay is purposely introduced in the tripping action of the circuit breaker.

- a. Adjustable
- b. Instantaneous Trip
- c. Inverse Time
- d. Nonadjustable

41. \_\_\_\_\_ means rendered inaccessible by the structure or finish of the building.

- a. Covered
- b. Exposed
- c. Concealed
- d. Enclosed

42. \_\_\_\_\_ means a conductor encased within material of composition or thickness that is not recognized by this Code as electrical insulation.

- a. Bare Conductor
- b. Insulated Conductor
- c. Covered Conductor
- d. None of the above

43. \_\_\_\_\_ means a separate portion of a conduit or tubing system that provides access through a removable cover (s) to the interior of the system at a junction of two or more sections of the system or at a terminal point of the system.

- a. Conduit Body
- b. Equipment Grounding Conductor
- c. Box Conductors
- d. Piping System

44. \_\_\_\_\_ means a device that establishes a connection between two or more conductors or between one or more conductors and a terminal by means of mechanical pressure and without the use of solder.

- a. Ground Fault Circuit Interrupter
- b. Transformer
- c. Receptacle
- d. Pressure Conductor (Solderless)

45. \_\_\_\_\_ means a load where the maximum current is expected to continue for 3 hours or more.

- a. Gable Endwall
- b. Non-continuous Load
- c. Continuous Load
- d. Truss Bracing

46. \_\_\_\_\_ means a device or group of devices that serves to govern, in some predetermined manner, the electric power delivered to the apparatus to which it is connected.

- a. Speed Controller
- b. Controller
- c. Alternative Drive Systems
- d. None of the above

47. \_\_\_\_\_ means localization of an overcurrent condition to restrict outages to the circuit or equipment affected, accomplished by the choice of overcurrent protective devices and their ratings or settings.

- a. Arc Flash Protection
- b. Coordination (Selective)
- c. Branch Breaker Combination
- d. Load Side Fault Current

48. \_\_\_\_\_ means conductors drawn from a copper-clad aluminum rod with the copper metallurgically bonded to an aluminum core.

- a. Insulators
- b. Semiconductors
- c. Iron Conductors
- d. Copper-Clad Aluminum Conductors

49. \_\_\_\_\_ means an enclosure designed for surface mounting that has swinging doors or covers secured directly to and telescoping with the walls of the box proper.

- a. Cutout Box
- b. Junction Box
- c. Outlet Box
- d. None of the above

50. \_\_\_\_\_ means the ratio of the maximum demand of a system, or part of a system, to the total connected load of a system or the part of the system under consideration.

- a. Real Power
- b. Demand Factor
- c. Entire Load
- d. All of the above

51. \_\_\_\_\_ means a unit of an electrical system that carries or controls electric energy as its principle function.

- a. Device
- b. Transformer
- c. Mutual Induction
- d. Current

52. \_\_\_\_\_ means a device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

- a. Disconnect
- b. Power Supply
- c. Main Disconnect
- d. Disconnecting Means

53. \_\_\_\_\_ means operation at a substantially constant load for an indefinitely long time.

- a. Intermittent Duty
- b. Periodic Duty
- c. Continuous Duty
- d. Short-Time Duty

54. \_\_\_\_\_ means power production, distribution, and utilization equipment and facilities, such as electric utility systems that deliver electric power to the connected loads, that are external to and not controlled by an interactive system.

- a. Electricity Generation
- b. Electromechanical Generators
- c. Distributed Generation
- d. Electric Power Production and Distribution Network

55. \_\_\_\_\_ means electrically connected to, or is, a source of voltage.

- a. De-energized
- b. Energized
- c. Dead Front
- d. Electrical Hazard

56. \_\_\_\_\_ means all circuit conductors between the service equipment, the source of a separately derived system, or other power supply source and the final branch-circuit overcurrent device.

- a. Feeder
- b. Feeder Wires
- c. Feeder Pipe
- d. Branch Circuit Wires

57. \_\_\_\_\_ means a string of outdoor lights that is suspended between two points.

- a. Cable Harness
- b. Lampholder
- c. Festoon Lighting
- d. Rigid Lighting

58. \_\_\_\_\_ means an accessory such as a locknut, bushing, or other part of a wiring system that is intended primarily to perform a mechanical rather than an electrical function.

- a. Clipsal Fitting
- b. Main Switch
- c. Fitting
- d. Conduit

59. \_\_\_\_\_ means connected to ground or to a conductive body that extends the ground connection.

- a. Electrical Circuit
- b. Securely Bonded
- c. Earthing
- d. Grounded

60. \_\_\_\_\_ means a conducting object through which a direct connection to earth is established.

- a. Grounding Electrode
- b. Guarded
- c. Grounded Conductor
- d. Ground Fault

# Electrical Continuing Ed Test 2 Answer Sheet

Circle or Mark the Correct Answer

- |     |   |   |   |   |     |   |   |   |   |
|-----|---|---|---|---|-----|---|---|---|---|
| 1.  | a | b | c | d | 49. | a | b | c | d |
| 2.  | a | b | c | d | 50. | a | b | c | d |
| 3.  | a | b | c | d | 51. | a | b | c | d |
| 4.  | a | b | c | d | 52. | a | b | c | d |
| 5.  | a | b | c | d | 53. | a | b | c | d |
| 6.  | a | b | c | d | 54. | a | b | c | d |
| 7.  | a | b | c | d | 55. | a | b | c | d |
| 8.  | a | b | c | d | 56. | a | b | c | d |
| 9.  | a | b | c | d | 57. | a | b | c | d |
| 10. | a | b | c | d | 58. | a | b | c | d |
| 11. | a | b | c | d | 59. | a | b | c | d |
| 12. | a | b | c | d | 60. | a | b | c | d |
| 13. | a | b | c | d |     |   |   |   |   |
| 14. | a | b | c | d |     |   |   |   |   |
| 15. | a | b | c | d |     |   |   |   |   |
| 16. | a | b | c | d |     |   |   |   |   |
| 17. | a | b | c | d |     |   |   |   |   |
| 18. | a | b | c | d |     |   |   |   |   |
| 19. | a | b | c | d |     |   |   |   |   |
| 20. | a | b | c | d |     |   |   |   |   |
| 21. | a | b | c | d |     |   |   |   |   |
| 22. | a | b | c | d |     |   |   |   |   |
| 23. | a | b | c | d |     |   |   |   |   |
| 24. | a | b | c | d |     |   |   |   |   |
| 25. | a | b | c | d |     |   |   |   |   |
| 26. | a | b | c | d |     |   |   |   |   |
| 27. | a | b | c | d |     |   |   |   |   |
| 28. | a | b | c | d |     |   |   |   |   |
| 29. | a | b | c | d |     |   |   |   |   |
| 30. | a | b | c | d |     |   |   |   |   |
| 31. | a | b | c | d |     |   |   |   |   |
| 32. | a | b | c | d |     |   |   |   |   |
| 33. | a | b | c | d |     |   |   |   |   |
| 34. | a | b | c | d |     |   |   |   |   |
| 35. | a | b | c | d |     |   |   |   |   |
| 36. | a | b | c | d |     |   |   |   |   |
| 37. | a | b | c | d |     |   |   |   |   |
| 38. | a | b | c | d |     |   |   |   |   |
| 39. | a | b | c | d |     |   |   |   |   |
| 40. | a | b | c | d |     |   |   |   |   |
| 41. | a | b | c | d |     |   |   |   |   |
| 42. | a | b | c | d |     |   |   |   |   |
| 43. | a | b | c | d |     |   |   |   |   |
| 44. | a | b | c | d |     |   |   |   |   |
| 45. | a | b | c | d |     |   |   |   |   |
| 46. | a | b | c | d |     |   |   |   |   |
| 47. | a | b | c | d |     |   |   |   |   |
| 48. | a | b | c | d |     |   |   |   |   |

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Name and Credential Number

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Date

To obtain your WI continuing education credits follow the below instructions.

1. If taking the same quiz more than once per cycle, fill out the forms with different dates.
2. Fill in all fields applicable.
3. Include your credential or license number.
4. We take care of registering with the state and mailing back the test results.

**FYI: The state allows a person to take the same course more than once (several times) per cycle.**

Send by mail

1. Test answer sheets, fee, and the following form.
  2. Fill out this form below completely.
  3. Make check or Money Order to Brett Or Kathy Ward
  4. Mail to: Yourwicontinuinged.com P.O. Box 36 Kaukauna WI 54130.
- Questions call: 920-740-4348

-----Educational Course Attendance Verification Form -----

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Credited Hours 2 hrs  
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Date

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