

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 1

Article 600: Electric Signs and Outline Lighting

1. Ballasts, transformers, and electronic power supplies shall be installed as near to the lamps or neon tubing as practicable to keep the secondary conductors as _____ as possible.

- a. Short
- b. Long
- c. Near
- d. Sturdy

2. Connections shall be made by use of a connection device, twisting of the wires together, or use of a(n) _____ receptacle.

- a. Tamper resistance
- b. Light
- c. Auxiliary
- d. Electrode

3. Where electrodes _____ an enclosure, bushings listed for the purpose shall be used unless receptacles are provided.

- a. Depart
- b. Penetrate
- c. Surround
- d. Integrate

Article 604: Manufactured Wiring Systems

4. _____ means a system containing component parts that are assembled in the process of manufacture and cannot be inspected at the building site without damage or destruction to the assembly and used for the connection of luminaries, utilization equipment, continuous plug-type busways, and other devices.

- a. Wire Binding System
- b. Modular Wiring System
- c. Global Wiring System
- d. Manufactured Wiring System

Article 605: Office Furnishings

305. The electrical connection between partitions shall be a flexible assembly identified for use with wired partitions or shall be permitted to be installed using flexible cord, provided all EXCEPT which one of the following:

- a. The partitions are mechanically contiguous.
- b. The cord is not longer than necessary for maximum positioning of the partitions but is in no case to exceed 600 mm.
- c. The cord is terminated at an attachment plug-and-cord connector with strain relief.
- d. The cord is extra hard usage type with 10 AWG or larger conductors, with an insulated equipment grounding conductor.

6. Partitions of the fixed type shall be permitted to be connected to the building electrical system by one of the wiring methods of Chapter 3.

- a. True
- b. False

7. The receptacle(s) supplying power shall be on a separate circuit serving only panels and not other loads and shall be located not more than 300 mm from the partition that is _____ to it.

- a. Unrelated
- b. Unconnected
- c. Connected
- d. Coupled

8. Individual partitions or groups of interconnected individual partitions shall not contain more than _____ 15-ampere, 125-volt receptacle outlets.

- a. Sixteen
- b. Fifteen
- c. Fourteen
- d. Thirteen

9. Individual partitions or groups of interconnected individual partitions shall not contain _____ circuits.

- a. Open
- b. Multiwire
- c. Closed
- d. Service

Article 610: Cranes and Hoists

10. Where multiconductor cable is used with a suspended pushbutton station, the station shall be supported in some satisfactory manner that protects the electrical conductors against _____.

- a. Movement
- b. Strain
- c. Blockage
- d. Damage

11. A boxed or terminal fitting that has a separately bushed hole for each conductor shall be used wherever a change is made from a raceway or cable to _____ wire.

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

12. A conductor (s) exposed to external heat or connected to _____ shall have a flame-resistant outer covering or be covered with flame-resistant tape individually or as a group.

- a. Terminals
- b. Circuits
- c. Stations
- d. Resistors

13. Contact conductors along runways, crane bridges, and monorails shall be permitted to be _____ and shall be copper, aluminum, steel, or other alloys or combinations thereof in the form of hard-drawn wire, tees, angles, tee rails, or other stiff shapes.

- a. Bare
- b. Covered
- c. Reinforced
- d. Insulated

14. Where the secondary resistor is separate from the controller, the minimum size of the conductors between controller and resistor shall be calculated by _____ the motor secondary current by the appropriate factor from Table 610.14 (B) and selecting a wire from Table 610.14 (A).

- a. Subtracting
- b. Adding
- c. Multiplying
- d. Increasing

15. Where a crane or hoist is operated by more than one motor, a _____ conductor of proper ampacity shall be permitted.

- a. Main Ground
- b. Positive
- c. Negative
- d. Common-return

16. Runway contact conductors shall be guarded, and bridge contact conductors shall be located or guarded in such a manner that persons cannot inadvertently touch energized _____ parts.

- a. Circuit
- b. Conductor
- c. Current-carrying
- d. Cable

17. Wires that are used as contact conductors shall be secured at the ends by means of _____ strain insulators and shall be mounted on approved insulators so that the extreme limit of displacement of the wire does not bring the latter within less than 38 mm from the surface wired over.

- a. Inspected
- b. Double
- c. Manufactured
- d. Approved

18. Monorail, tram rail, or crane runway tracks shall be permitted as a conductor of current for one phase of a three-phase, ac system furnishing power to the carrier, crane, or trolley, provided all of the following conditions are met EXCEPT:

- a. The conductors supplying the other two phases of the power supply are not insulated.
- b. The power for all phases is obtained from an insulating transformer.
- c. The voltage does not exceed 300 volts.
- d. The rail serving as a conductor shall not be bonded to the equipment grounding conductor at the transformer and also shall be permitted to be grounded by the fittings used for the suspension or attachment of the rail to a building or structure.

19. Taps without separate _____ protection shall be permitted to brake coils.

- a. Relay
- b. Overload
- c. Overcurrent
- d. Delay

Article 630: Electric Welders

20. A rating plate shall be provided for arc welders giving which of the following information:

- a. Name of Dealer
- b. Name of Manufacturer
- c. Frequency, number of phases, and primary voltage
- d. b and c

21. Each welder shall have an overcurrent device rated at not more than _____ percent of the rated primary current of the welder

- a. 200
- b. 300
- c. 250
- d. None of the above

Article 695: Fire Pumps

22. The disconnecting means shall comply with which of the following:

- a. Be identified as suitable for use as service equipment
- b. Be lockable in the open position
- c. Not be located within equipment that feeds loads other than the fire pump
- d. a and c

Article 700: Emergency Systems

23. All boxes and enclosures (including transfer switches, generators, and power panels) for emergency circuits shall be permanently marked so they will be readily identified as a(n) _____ of an emergency circuit or system.

- a. Element
- b. Module
- c. Component
- d. Section

24. Emergency wiring circuits shall be designed and located so as to minimize the hazards that might cause failure due to flooding, fire, icing, _____, and other adverse conditions.

- a. Vandalism
- b. Wind
- c. Snow
- d. Heat

25. Current supply shall be such that, in the event of failure of the normal supply to, or within, the building or group of buildings concerned, emergency lighting, emergency power, or both shall be available within the time required for the application but not to exceed _____ seconds.

- a. 10
- b. 20
- c. 30
- d. 60

26. Prime movers shall not be _____ dependent on a public utility gas system for their fuel supply or municipal water supply for their cooling systems.

- a. Solely
- b. Overly
- c. Primarily
- d. Excessively

27. Where a storage battery is used for control or signal power or as the means of starting the prime mover, it shall be _____ for the purpose and shall be equipped with an automatic charging means independent of the generator set.

- a. Evaluated
- b. Appropriate
- c. Suitable
- d. Assessed

28. Generator sets that require more than 10 seconds to develop power shall be permitted if an auxiliary power supply energizes the emergency system until the _____ can pick up the load.

- a. Hybrid system
- b. Standby power
- c. Generator
- d. Utility-Interactive Inverter Output Circuit

29. Fuel cell systems used as a source of power for emergency systems shall be of suitable rating and capacity to supply and maintain the total load for not less than _____ hours of full-demand operation.

- a. 1
- b. 2
- c. 3
- d. 4

30. For branch circuits that supply equipment classed as emergency, there shall be an emergency supply source to which the load will be _____ automatically upon the failure of the normal supply.

- a. Transferred
- b. Removed
- c. Relocated
- d. Reassigned

31. All manual switches for controlling emergency circuits shall be in locations convenient to authorized persons responsible for their _____.

- a. Activation
- b. Creation
- c. Actuation
- d. Design

32. Those lights on the exterior of a building that are not required for illumination when there is sufficient _____ shall be permitted to be controlled by an automatic light-actuated device.

- a. Energy
- b. Light
- c. Power
- d. Daylight

33. Emergency system(s) overcurrent devices shall be _____ coordinated with all supply side overcurrent protective devices.

- a. Intentionally
- b. Individually
- c. Selectively
- d. Specifically

Article 701: Legally Required Standby Systems

34. _____ means those systems required and so classed as legally required standby by municipal, state, federal, or other codes or by any governmental agency having jurisdiction.

- a. Optional Standby Systems
- b. Capacity and rating systems
- c. Legally required standby systems
- d. Tests and Maintenance for Legally Required Standby Systems

35. _____ means a legally required standby system shall have adequate capacity and rating for the supply of all equipment intended to be operated at one time.

- a. Legally required standby systems
- b. Capacity and rating
- c. Tests and Maintenance for Legally Required Standby Systems
- d. Conduct or Witness Test

36. A storage battery shall be of suitable rating and capacity to supply and maintain at not less than _____ percent of system voltage the total load of the circuits supplying legally required standby power for a period of at least 1 ½ hours.

- a. 87 ½
- b. 87
- c. 75
- d. 75 ½

Article 702: Optional Standby Systems

37. _____ means those systems intended to supply power to public or private facilities or property where life safety does not depend on the performance of the system.

- a. Legally required standby systems
- b. Capacity and rating systems
- c. Legally required standby systems
- d. Optional Standby systems

Article 705: Interconnected Electric Power Production Sources

38. _____ means a system comprised of multiple power sources.

- a. Legally required standby system
- b. Capacity and rating system
- c. Hybrid system
- d. Optional standby system

39. _____ means the point at which the power production and distribution network and the customer interface occurs in an interactive system.

- a. External coupling
- b. Point of common coupling
- c. Control coupling
- d. Stamp coupling

40. _____ means the conductors between the utility interactive inverter and the service equipment or another electric power production source, such as a utility, for electrical production and distribution network.

- a. Utility-interactive inverter output circuit
- b. Utility-interactive PV system
- c. PV Source-circuit conductors
- d. Overcurrent conductors

41. Upon loss of primary source, an electric power production source shall be automatically disconnected from all ungrounded conductors of the _____ source and shall not be reconnected until the primary source is restored.

- a. Primary
- b. Secondary
- c. Original
- d. Inactive

Article 708: Critical Operations Power Systems

42. _____ means the acceptance testing, integrated system testing, operational tune-up, and start-up testing is the process by which baseline test results verify the proper operation and sequence of operation of electrical equipment, in addition to developing baseline criteria by which future trend analysis can identify equipment deterioration.

- a. Risk Assessment
- b. Designated Critical Operations Areas
- c. Critical Operations Power Systems
- d. Commissioning

43. _____ means power systems for facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity.

- a. Designated Critical Operations Areas
- b. Synchronous Generators
- c. Commissioning
- d. Critical Operations Power Systems

44. _____ means areas within a facility or site designated as requiring operations power.

- a. Critical Operations areas
- b. Designated Critical Operations areas
- c. Restricted Access areas
- d. Risk Assessment areas

45. _____ means an electronic system that provides monitoring and controls for the operation of the critical operations power system.

- a. Identification of hazards
- b. Developing mitigation strategy
- c. Supervisory control and data acquisition
- d. Risk Assessment

46. In critical operation power systems, risk assessment shall be performed to identify hazards, the likelihood of their occurrence, and the _____ of the electrical system to those hazards.

- a. Power
- b. Influence
- c. Strength
- d. Vulnerability

47. A commissioning plan shall be developed and _____.

- a. Evaluated
- b. Documented
- c. Inspected
- d. Reviewed

48. The installation of the equipment shall undergo component and system tests to ensure that, when _____, the system will function properly.

- a. Inspected
- b. Needed
- c. Overloaded
- d. Energized

49. A set of _____ test results shall be documented for comparison with future periodic maintenance testing to identify equipment deterioration.

- a. Independent
- b. Baseline
- c. Periodic
- d. Outcome

50. A functional performance test program shall be established, documented, and executed upon complete installation of the critical system in order to establish a baseline reference for _____ performance requirements.

- a. Present
- b. Future
- c. Mandatory
- d. Current

51. Means shall be permitted to bypass and _____ the transfer equipment.

- a. Contain
- b. Enclose
- c. Isolate
- d. Attach

52. Branch circuits supplied by the COPS shall only supply equipment specified as _____ for critical operations use.

- a. Needed
- b. Suggested
- c. Evaluated
- d. Required

Article 725: Class 1-3 Remote control, signaling, and power limited circuits

53. Class ____ circuit is the portion of the wiring system between the load side of the overcurrent device or power limited supply and the connected device.

- a. 1
- b. 2
- c. 3
- d. None of the above

54. Remote -control circuits for safety-control equipment shall be classified as Class _____ if the failure of the equipment to operate introduces a direct fire or life hazard.

- a. 1
- b. 2
- c. 3
- d. All of the above

55. In hoistways, Class _____ circuit conductors shall be installed in rigid metal conduit, rigid nonmetallic conduit, intermediate metal conduit, liquidtight nonmetallic conduit, or electrical metallic tubing.

- a. 1
- b. 2
- c. 3
- d. b or c

56. For other applications, conductors of Class _____ circuits shall be separated by at least 50 mm from conductors of any electric light, power, Class 1 non-power-limited fire alarm or medium power network-powered communications circuits (unless code specified conditions are met):

- a. 1
- b. 2
- c. 3
- d. b and c

57. Cables installed in ducts, plenums, and other spaces used for environmental air shall be Type _____.

- a. CL2P
- b. CL3P
- c. CL3R
- d. a or b

Article 800: Communication Circuits

58. _____ means installed communications cable that is not terminated at both ends at a connector or other equipment and not identified for future use with a tag.

- a. Abandoned communications cable
- b. Removal of abandoned low-voltage cables
- c. Excessive cabling
- d. Recommended Practice for the Fire Protection of Telecommunications Facilities

59. _____ means a conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum.

- a. Air duct
- b. Ventilation
- c. Ductwork
- d. Flexible Tubing

60. _____ means a square or portion of a city, town, or village enclosed by streets and including the alleys so enclosed, but not any street.

- a. Urban block
- b. Urban design
- c. Parcel
- d. Block

Electrical Continuing Ed Test 1 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 | | | | | |

Name and Credential Number

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.

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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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To be completed by Brett or Kathy Ward yourwicontinuinged.com

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Date

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