

SAMPLE QUESTIONS OF THE TYPE ON CERT TEST

NEC 2008 General Electrician Exam 2

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Conductors in sizes smaller than 1/0 AWG shall be permitted to be run in parallel to supply control power to indicating instruments, contactors, relays, solenoids, and similar control devices, or for frequencies of 360 Hz and higher, provided all of the following apply:
 - a. They are contained within the same raceway or cable
 - b. The ampacity of each individual conductor is sufficient to carry the entire load current shared by the parallel conductors
 - c. The overcurrent protection is such that the ampacity of each individual conductor will not be exceeded if one or more of the parallel conductors become inadvertently disconnected
 - d. a, b, and c

- _____ 2. The minimum thickness of sealing compound in Class I, Division 1 and 2 locations shall not be less than the trade size of the sealing fitting, and in no case less than _____ inches.
 - a. 1/8
 - b. 1/4
 - c. 3/8
 - d. 5/8

- _____ 3. Fixed electric space heating equipment requiring supply conductors with insulation rated over _____ degrees Centigrade shall be clearly marked.
 - a. 75
 - b. 60
 - c. 90
 - d. a, b, and c

- _____ 4. Conductors for an appliance circuit supplying more than one appliance receptacle in an installation operating at less than 50 volts shall not be smaller than No. _____ copper or equivalent.
 - a. 18 AWG
 - b. 14 AWG
 - c. 12 AWG
 - d. 10 AWG

- _____ 5. It shall be permitted to base the _____ rating of a range receptacle on a single range demand load specified in Table 220.55.
 - a. circuit
 - b. voltage
 - c. ampere
 - d. load

- _____ 6. Electrical equipment that depends on the _____ principles for cooling of exposed surfaces shall be installed so that room airflow over such surfaces is not prevented by walls or by adjacent installed equipment.
 - a. convection
 - b. natural circulation of air and convection
 - c. artificial cooling and circulation
 - d. air conditioning

- ____ 7. Equipment is required to be installed and used according to any instructions included in the _____.
- listed or published
 - labeled or design
 - listing or labeling
 - a, b, and c
- ____ 8. In a dwelling unit, receptacle spacing, shall be installed as such that no point measured horizontally along the floor line in any wall space may be more than _____ feet from a receptacle outlet
- 12
 - 10
 - 8
 - 6
- ____ 9. Where bare or covered conductors are installed with insulated conductors, the temperature rating of the bare or covered conductor shall be _____.
- 60 degrees C
 - greater than the lowest temperature rating of the insulated conductors for the purpose of determining ampacity
 - 90 degrees C
 - equal to the lowest temperature rating of the insulated conductors for the purpose of determining ampacity
- ____ 10. When installing underground rigid nonmetallic conduit, and other approved nonmetallic raceways, under a building, it must have a minimum of _____ inches of cover.
- 6
 - 12
 - 0
 - 24
- ____ 11. A single receptacle installed on an individual branch circuit must be rated at least _____ percent of the rating of the circuit.
- 50
 - 60
 - 80
 - 100
- ____ 12. A nonflammable synthetic insulating media known as _____, which under arcing conditions, the gases produced, while consisting predominantly of noncombustible hydrogen chloride, can include varying amounts of combustible gases.
- Mineral Oil
 - Poly Chlorinated Bi-Phenol (PCB)
 - Askarel
 - Phenol
- ____ 13. Types of pipeline resistive heaters are heating _____.
- blankets
 - tape
 - barrels
 - a and b

- ____ 14. Open wiring on insulators within ____ feet from the floor shall be considered exposed to physical damage.
- 4
 - 2
 - 7
 - 12
- ____ 15. Types TPT and TST cord shall be permitted in lengths not exceeding ____ feet when attached directly, or by means of a special type of plug, to a portable appliance rated 50 watts or less and of such nature that extreme flexibility of the cord is essential.
- 8
 - 10
 - 15
 - 6
- ____ 16. Circuit that supply signs and outline lighting systems containing incandescent and fluorescent, forms of illumination shall be rated not to exceed ____ amperes.
- 20
 - 30
 - 40
 - 50
- ____ 17. Direct buried conductors or cables shall be _____, providing those splices are made with approved methods and identified materials.
- permitted to be spliced without a splice box
 - spliced only in an approved junction box
 - spliced only in a weatherproof splice box
 - none of these
- ____ 18. The rating or setting of an overcurrent protection device for a 16.3 ampere single non motor operated appliance should not exceed ____ amperes.
- 15
 - 35
 - 25
 - 45
- ____ 19. The connection between the grounded circuit conductor and the equipment grounding conductor at the service is accomplished with the use of a _____.
- main bonding jumper sized per 250.66
 - system bonding jumper sized per 250.66
 - equipment bonding conductor sized per 250.122
 - main bonding jumper sized per 250.122
- ____ 20. Ground Fault Circuit Interrupter (GFCI) protection for personnel is required for all 125 volt, single phase, 15 and 20 ampere receptacles installed in a dwelling unit _____.
- attics
 - garages
 - crawl spaces above grade level
 - a, b, and c

- _____ 21. An outdoor antenna of a receiving station with a 75 foot span using a copper clad steel conductor shall not be less than No. _____.
a. 10 AWG
b. 12 AWG
c. 14 AWG
d. 17 AWG
- _____ 22. The metallic sheath of communications cables entering buildings shall be _____.
a. grounded at the point of emergence through an exterior wall
b. grounded at the point of emergence through a concrete floor slab
c. interrupted as close to the point of entrance as practicable by an insulating joint
d. a, b, and c
- _____ 23. All exposed non current carrying metal parts of cranes, monorail hoists, hoists, and accessories, including pendant controls, shall _____, where applicable, so that the entire crane or hoist is a ground fault path as required or permitted by Article 250, Parts V and VII.
a. be bonded with No. 6 AWG or larger conductors
b. be bonded either by mechanical connections or bonding jumpers
c. be grounded
d. not be grounded
- _____ 24. All branch circuits that supply 120 volt, single phase, 15 and 20 ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be _____ protected.
a. AFCI
b. GFCI
c. a and b
d. ACFI
- _____ 25. A fixture in a Class III locations that may be exposed to physical damage shall be protected by a _____ guard.
a. substantial
b. metal
c. suitable
d. bronze
- _____ 26. Ground fault protection of equipment shall be provided for electric heat tracing and heating panels. This requirement shall not apply in industrial establishments where there is alarm indication of ground faults and the following condition(s) apply:
a. Conditions of maintenance and supervision ensure that only qualified persons service the installed systems
b. Continued circuit operation is necessary for safe operation of equipment or processes
c. a and b
d. none of these
- _____ 27. Class 1 control circuit conductors shall have overcurrent protection _____.
a. for No. 14 AWG and larger
b. not exceeding 7 amperes for No. 18 AWG, and 10 amperes for No. 16 AWG
c. and derating factors do not apply
d. a, b, and c

Name: _____

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- _____ 35. In dwelling units, the voltage between conductors shall not exceed 120 volts, nominal, between conductors that supply terminals of _____.
a. luminaires
b. cord and plug connected loads of 1,440 VA, nominal, or less
c. cord and plug connected loads of 1,440 VA, nominal, or more
d. a and b
- _____ 36. Hazardous locations are classified depending on the properties of the _____, that may be present, and the likelihood that a flammable or combustible concentration or quantity is present.
a. flammable gas
b. flammable liquid produced vapor
c. combustible dusts or fibers/flyings
d. a, b, and c
- _____ 37. The overcurrent protective devices, the total impedance, the component short circuit _____ ratings, and other characteristics of the circuit to be protected shall be selected and coordinated to permit the circuit protective devices used to clear a fault to do so without extensive damage to the electrical components of the circuit.
a. withstand
b. current
c. overload
d. interrupting
- _____ 38. For electrode type boilers, each boiler shall be designed so that in normal operation there is no change in state of the heat transfer medium, and shall be equipped with a temperature sensitive _____.
a. protective device
b. limiting means
c. shut off device
d. all of these
- _____ 39. Aluminum cable trays shall not be used as an equipment grounding conductor for circuits with ground fault protection above _____ amperes.
a. 2000
b. 300
c. 500
d. 1200
- _____ 40. The maximum allowable horse power rating of a permanently connected appliance where the branch circuit overcurrent protection device is used as the appliance disconnecting means is _____ horsepower.
a. 1/8
b. 1/4
c. 1/2
d. 3/4
- _____ 41. What size THHN conductor is required for a 50 ampere circuit if the equipment terminals are listed for 75 degrees Centigrade conductor sizing? Reference Table 310.16
a. 10 AWG copper
b. 8 AWG copper
c. 6 AWG copper
d. 4 AWG copper

Name: _____

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- _____ 28. In a commercial major repair garage, the pit area in lubrication or service rooms, belowgrade, shall be classified as a _____ location that extends up to the floor level, unless provisions are made for mechanical ventilation providing a minimum of six air changes per hour, which is a _____ location.
- Class I, Division 2 and Class I Division 1
 - Class II, Division 2 and Class Division 1
 - Class II, Division 1 and Class II Division 2
 - Class I, Division 1 and Class I Division 2
- _____ 29. Emergency Lighting Unit Equipment (battery pack) shall be on the same branch circuit as that serving the normal lighting in the area and connected _____ of any local switches.
- separately
 - ahead
 - after
 - none of these
- _____ 30. The neutral conductor of a 3 wire branch circuit supplying a household electric range shall be permitted to be smaller than the ungrounded conductors where the maximum demand of a range of 8-3/4 kW or more has been calculated according to Column C of Table 220.55. However, the neutral ampacity shall not be less than _____ percent of the branch circuit rating and not smaller than No. _____.
- 50 and 6
 - 70 and 6
 - 50 and 10
 - 70 and 10
- _____ 31. Floor penetrations requiring Types CMR communication cable shall contain only cables suitable for riser or plenum use. Listed communication cables shall be _____.
- encased in a metal raceway
 - located in a fireproof shaft with firestops at each floor
 - a or b
 - none of these
- _____ 32. No _____ shall be attached to any terminal or lead so as to reverse designated polarity.
- grounded conductor
 - grounding conductor
 - ungrounded conductor
 - grounding connector
- _____ 33. Lampholders installed over highly combustible material shall be of the _____ type.
- industrial
 - switched
 - unswitched
 - residential
- _____ 34. The NEC permits lighting fixture tap conductors to be a minimum of _____ inches long.
- 12
 - 36
 - 24
 - 18

Name: _____

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- ____ 50. Type MV is defined as a single or multiconductor solid dielectric insulated cable rated ____ volts or higher.
- a. 601
 - b. 2000
 - c. 2001
 - d. 4160

- _____ 42. All wiring shall be installed so that the completed system will be free from _____.
a. short circuits
b. ground faults
c. a and b
d. defects
- _____ 43. In information technology rooms, an approved means shall be provided to disconnect power to _____.
a. all electronic equipment
b. all dedicated HVAC systems serving the room
c. shall cause all required fire/smoke dampers to close
d. all electronic equipment, all dedicated HVAC systems serving the room, and shall cause all required fire/smoke dampers to close
- _____ 44. Where connected to a branch circuit supplying _____ or more receptacles or outlets, a receptacle shall not supply a total cord and plug connected load in excess of the maximum specified in Table 210.21(B)(2).
a. two
b. three
c. four
d. five
- _____ 45. Branch circuits rated 15 or 20 amperes can supply fixed appliances (utilization equipment fastened in place) as long the fixed appliances do not exceed _____ percent of the circuit rating.
a. 125
b. 100
c. 80
d. 50
- _____ 46. No. 18 TFFN fixture wire is rated for _____ amperes.
a. 14
b. 10
c. 8
d. 6
- _____ 47. Where the load is calculated on the basis of volt amperes per square foot, the load shall be evenly proportioned among multioutlet branch circuits within the _____.
a. premises
b. branch circuits
c. panelboard(s)
d. dwelling unit
- _____ 48. In a Class II location, where electrically conducting dust is present, flexible connections can be made with _____.
a. flexible metal conduit
b. Type AC armored cable
c. flexible cord listed hard usage
d. liquidtight flexible metal conduit with listed fittings
- _____ 49. Distinctive marking at the terminals during the process of installation shall identify the grounded conductors of _____ metal-sheathed cable.
a. armored
b. mineral-insulated
c. copper
d. aluminum

NEC 2008 General Electrician Exam 2
Answer Section

MULTIPLE CHOICE

1. ANS: D
Article 310.4(A) Exception No.1

PTS: 1

2. ANS: D
Article 501.15(C)(3)

PTS: 1

3. ANS: B
Article 424.11

PTS: 1

4. ANS: D
Article 720.4 (DIFFICULT)

PTS: 1

5. ANS: C
Article 210.21(B)(4) (DIFFICULT)

PTS: 1

6. ANS: B
Article 110.13(B)

PTS: 1

7. ANS: C
Article 110.3(B)

PTS: 1

8. ANS: D
Article 210.52(A)(1)

PTS: 1

9. ANS: ~~A~~ D
Article 310.15(B)(3) (DIFFICULT)

PTS: 1

10. ANS: C
Article 300.5 and Table 300.5 Column 3 (DIFFICULT)

PTS: 1

11. ANS: D
Article 210.21(B)(1) (DIFFICULT)
PTS: 1
12. ANS: C
Article 100 Definitions
PTS: 1
13. ANS: D
Article 427.2
PTS: 1
14. ANS: C
Article 398.15(C) (DIFFICULT)
PTS: 1
15. ANS: A
Article 400.4 and Table 400.4 Note 4
PTS: 1
16. ANS: A
Article 600.5(B)(1)
PTS: 1
17. ANS: A
Article 300.5(E) and 110.14(B)
PTS: 1
18. ANS: C
Article 422.11(E)(3)
PTS: 1
19. ANS: A
Article 100 Definitions
PTS: 1
20. ANS: B
Article 210.8(A)(2)
PTS: 1
21. ANS: D
Article 810.16(A) and Table 810.16(A)
PTS: 1
22. ANS: D
Article 800.93(A)
PTS: 1

23. ANS: B
Article 610.61

PTS: 1

24. ANS: A
Article 210.12(B)

PTS: 1

25. ANS: C
Article 503.130(B)

PTS: 1

26. ANS: C
Article 427.22

PTS: 1

27. ANS: D
Article 725.43 (DIFFICULT)

PTS: 1

28. ANS: D
Article 511.3(C)(3)(a) and (b) (DIFFICULT)

PTS: 1

29. ANS: B
Article 700.12(F)

PTS: 1

30. ANS: D
Article 210.19(A)(3) Exception No. 2

PTS: 1

31. ANS: C
Article 800

PTS: 1

32. ANS: A
Article 200.11

PTS: 1

33. ANS: C
Article 410.12

PTS: 1

34. ANS: D
Article 410.117(C)

PTS: 1

35. ANS: D
Article 210.6(a)

PTS: 1

36. ANS: D
Article 500.5(A)

PTS: 1

37. ANS: B
Article 110.10

PTS: 1

38. ANS: B
Article 424.83

PTS: 1

39. ANS: A
Article 392.3(C) and 392.7(b) and Table 392.7(B) Note b (DIFFICULT)

PTS: 1

40. ANS: A
Article 422.31(A)

PTS: 1

41. ANS: B
Article 110.14(C)(1) (DIFFICULT)

PTS: 1

42. ANS: C
Article 110.7

PTS: 1

43. ANS: D
Article 645.10

PTS: 1

44. ANS: A
Article 210.21(B)(2)

PTS: 1

45. ANS: D
Article 210.23(A)(2)

PTS: 1

46. ANS: D
Article 402.5 ad Table 402.5

PTS: 1

47. ANS: C
Article 210.11(B)

PTS: 1

48. ANS: D
502.10(A)(2)(2)

PTS: 1

49. ANS: B
Article 200.6(A)(1)

PTS: 1

50. ANS: C
Article 328.2

PTS: 1

110.26 table c 2, the width of working space in front of the electrical equipment shall be the width of the equipment or 30 inches whichever is greater

A transformer is a device that transfers electrical energy from one circuit to another through inductively coupled wires. A changing current in the first circuit (the primary) creates a changing magnetic field; in turn, this magnetic field induces a changing voltage in the second circuit (the secondary). By adding a load to the secondary circuit, one can make current flow in the transformer, thus transferring energy from one circuit to the other.

A choke is an inductor designed to have a high reactance to a particular frequency when used in a signal-carrying circuit.

An electrical ballast (sometimes called control gear) is a device intended to limit the amount of current flowing in an electric circuit.

Ballasts vary greatly in complexity. They can be as simple as a series resistor as commonly used with small neon lamps. For higher-power installations, too much energy would be wasted in a resistive ballast, so alternatives are used that depend upon the reactance of inductors, capacitors, or both. Finally, ballasts can be as complex as the computerized, remote-controlled electronic ballasts used with fluorescent lamps.

nec 2008 here are a few 110.59, 110.57, 110.75 b, 200.2 b, 210.23 a 1, 210.52 h, 220.12 table dwellings, 220.52 a, 220.83 a 225.34 a, , 230.72 b, 240.6 breakers and standard fuses, 250.24 c 1, 250.30 4 c 1-3, 250.34, 250.30 8, 250.56, 250.66 a, 250.164 c, 280.4 a, 285.23 c, table 300.19 a, 310.15 b 2 c, 312.2, 312.4, 336.24 12 times, 350.30 a, 380.2 a, 392.5 b, 392.9 b, 400.5 table 4-6 80 %, 404.9 b, 408.40, 409.2 industrial control panel 1-3, 410.65, 422.13, 424.22 b, 426.23 a, 426.50 a, 430.7 b, 440.63, 450.42, 480.2, 501.5, 501.15, 501.15 a 4, 501.15 c 6, 501.35 b specific duty, 502.35, 505.16 a 1, 517.30 c 3 patient care areas cannot use non metallic, 520.53 h 1, 700.9 b, 700.8 a, 700.17, 701.5 d, 800.44 4 b, 810.55, 810.58 c, 820.44 d, 830.15 table, 830.47 table, there was one on ambient temperature and the answer was 30 degrees Celsius.

605.8 c, then in chapter 625 there is one question i think it was either 625.21 or 625.22, a few calculation in 424 and 220.

820.15

250.102 C

110.74

110.75

210.3

215.2 (A)(2)

215.3

