Instructions:

1. Print these pages.
2. Circle the correct answers.
3. Page down to the last page for the verification forms and mailing instructions.

05 changes-3 5 Hours of Credit
Chapter 1 General

Article 100 Definitions
1. The connection between the grounded circuit conductor and the equipment grounding (bonding) conductor at a separately derived system is the _____.
(a) main bonding jumper
(b) system bonding jumper
(c) circuit bonding jumper
(d) equipment bonding jumper

2. Which of the following does the Code recognize as a device?
(a) Switch
(b) Light bulb
(c) Transformer
(d) Motor

3. A device that establishes an electrical connection to the earth is the _____.
(a) grounding electrode conductor
(b) grounding conductor
(c) grounding electrode
(d) grounded neutral conductor

4. A _____ is an accommodation that combines living, sleeping, sanitary, and storage facilities.
(a) guest room
(b) guest suite
(c) dwelling unit
(d) single family dwelling

5. Outline lighting may include an arrangement of _____ to outline or call attention to certain features such as the shape of a building or the decoration of a window.
(a) incandescent lamps
(b) electric-discharge lighting
(c) electrically powered light sources
(d) a, b, or c

6. NFPA 70E, *Electrical Safety Requirements for Employee Workplaces* provides information to help determine the electrical safety training requirements expected of a "qualified person."
(a) True
(b) False

Article 110 Requirements for Electrical Installations

7. The NEC requires that electrical work be installed _____.
(a) in a neat and workmanlike manner
(b) under the supervision of a qualified person
(c) completed before being inspected
(d) all of these

8. Enclosures housing electrical apparatus that are controlled by a lock are be considered _____ to qualified persons.
(a) readily accessible
(b) accessible
(c) available
(d) none of these

Chapter 2 Wiring and Protection
Article 200 Use and Identification of Grounded Neutral Conductors
9. Grounded neutral conductors _____ and larger shall be identified by a continuous white or gray outer finish along their entire lengths, by three continuous white stripes along their entire length, or by distinctive white or gray markings such as tape, paint or other effective means at their terminations.
(a) 10 AWG
(b) 8 AWG
(c) 6 AWG
(d) 4 AWG

10. Where grounded neutral conductors of different wiring systems are installed in the same raceway, cable, or enclosure, each grounded neutral conductor must be identified in a manner that makes it possible to distinguish the grounded neutral conductors for each system. This means of identification must be_____.
(a) permanently posted at each branch-circuit panelboard
(b) posted inside each junction box where both system neutrals are present
(c) done using a listed labeling technique
(d) all of these

Article 210 Branch Circuits

11. Where more than one nominal voltage system exists in a building, each ungrounded conductor of a branch circuit, where accessible, must be identified by system. The identification can be _____ and shall be permanently posted at each branch-circuit panelboard.
(a) color-coding
(b) phase tape
(c) tagging
(d) any of these

12. Where two or more branch circuits supply devices or equipment on the same yoke, a means to disconnect simultaneously all ungrounded (hot) conductors that supply those devices or equipment must be provided _____.
(a) at the point where the branch circuit originates
(b) at the location of the device or equipment
(c) at the point where the feeder originates
(d) none of these

13. In locations other than dwelling units, a kitchen _____.
(a) is required to have GFCI protection on all 15 and 20A, 125V single-phase receptacles
(b) includes a sink
(c) includes permanent facilities for food preparation and cooking
(d) all of these

14. All branch circuits that supply 15 and 20A, 125V single-phase outlets installed in dwelling unit bedrooms must be protected by a(n) _____ listed to provide protection of the entire branch circuit.
(a) AFCI
(b) GFCI

(c) a and b
(d) none of these

15. _____ provided with permanent provisions for cooking must have branch circuits and outlets installed to meet the rules for dwelling units.
(a) Guest rooms
(b) Guest suites
(c) Commercial kitchens
(d) a and b

16. At least one receptacle outlet must be installed at each peninsular countertop or island not containing a sink or range top, having a long dimension of _____ in. or greater, and a short dimension of _____ in. or greater.
(a) 12, 24
(b) 24, 12
(c) 24, 48
(d) 48, 24

17. When breaks occur in dwelling unit kitchen-countertop spaces for ranges, refrigerators, sinks, etc., each countertop surface is considered a separate counter space for determining receptacle placement.
(a) True
(b) False

18. At least one receptacle outlet accessible from grade level and not more than _____ above grade must be installed at each dwelling unit of a multifamily dwelling located at grade level and provided with individual exterior entrance/egress.
(a) 3 ft
(b) 6½ ft
(c) 8 ft
(d) 24 in.

19. The number of receptacle outlets for guest rooms in hotels and motels must not be less than that required for a dwelling unit, in accordance with 210.52(A). These receptacles can be located to be convenient for permanent furniture layout, but not less than _____ receptacle outlets must be readily accessible
(a) 4
(b) 2
(c) 6
(d) 1

20. At least one wall switch-controlled lighting outlet must be installed in every habitable room and bathroom of a guest room or guest suite of hotels, motels, and similar occupancies. A receptacle outlet controlled by a wall switch may be used to meet this requirement in other than _____.
(a) bathrooms
(b) kitchens
(c) sleeping areas
(d) both a and b

Article 215 Feeders

Article 225 Outside Branch Circuits and Feeders

21. Where a mast is used for overhead conductor support of outside branch circuits and feeders, it must have adequate mechanical strength, or braces or guy wires to support it, to withstand the strain caused by the conductors. Only _____ conductors can be attached to the mast.

(a) communications
(b) fiber optic
(c) feeder or branch circuit
(d) all of these

22. More than one feeder or branch circuit is permitted to supply a single building or other structure sufficiently large to require two or more supplies if permitted by _____.
(a) architects
(b) special permission
(c) written authorization
(d) master electricians

Article 230 Services

23. Disconnecting means used solely for power monitoring equipment, transient voltage surge suppressors, or the control circuit of the ground-fault protection system or power-operable service disconnecting means, installed as part of the listed equipment, are not considered a service disconnecting means.
(a) True
(b) False

Article 240 Overcurrent Protection

24. Where flexible cord is used in listed extension cord sets, the conductors are considered protected against overcurrent when used within _____.
(a) indoor installations
(b) non-hazardous locations
(c) the extension cord's listing requirements
(d) 50 ft of the branch-circuit panelboard

25. One of the requirements that permit conductors supplying a transformer to be tapped, without overcurrent protection at the tap, is that the conductors supplied by the _____ of a transformer must have an ampacity, when multiplied by the ratio of the primary-to-secondary voltage, of at least one-third of the rating of the overcurrent device protecting the feeder conductors.
(a) primary
(b) secondary
(c) tertiary
(d) none of these

26. Circuit breakers and fuses must be readily accessible and they must be installed so the center of the grip of the operating handle of the fuse switch or circuit breaker, when in its highest position, isn't more than_____ above the floor or working platform.
(a) 6 ft 7 in.
(b) 2 ft
(c) 5 ft
(d) 4 ft 6 in.

Article 250 Grounding and Bonding

27. An effective ground-fault current path is an intentionally constructed low-impedance path designed and intended to carry fault current from the point of a line-to-case fault on a wiring system to _____.
(a) ground
(b) earth

(c) electrical supply source
(d) none of these

28. For grounded systems, electrical equipment and wiring and other electrically conductive material likely to become energized must be installed in a manner that creates a _____ from any point on the wiring system where a ground fault may occur to the electrical supply source.
(a) permanent path
(b) low-impedance path
(c) path capable of safely carrying the ground-fault current likely to be imposed on it
(d) all of these

29. Sheet-metal screws can be used to connect grounding (or bonding) conductors or connection devices to enclosures.
(a) True
(b) False

30. Grounding electrode taps from a separately derived system to a common grounding electrode conductor are permitted when a building or structure has multiple separately derived systems.
(a) True
(b) False

31. The frame of a portable generator is not required to be grounded and is not to be connected to a _____ for a system supplied by cord and plug using receptacles mounted on the generator with the grounding terminals of the receptacles bonded to the generator frame.
(a) grounding electrode
(b) grounded neutral conductor
(c) ungrounded conductor
(d) equipment grounding (bonding) conductor

32. Concrete-encased electrodes of _____ are not required to be part of the grounding electrode system where the steel reinforcing bars or rods aren't accessible for use without disturbing the concrete.
(a) hazardous locations
(b) health care facilities
(c) existing buildings or structures
(d) agricultural buildings with equipotential planes

33. Grounding electrodes consisting of stainless-steel rods or nonferrous rods that are less than 5/8 inch in diameter must be listed and cannot be less than _____ in diameter.
(a) 1/2 in.
(b) 3/4 in.
(c) 1 in.
(d) 11/4

34. The connection (attachment) of the grounding electrode conductor to a grounding electrode must _____.
(a) be accessible
(b) be made in a manner that will ensure a permanent and effective grounding path
(c) a and b
(d) none of these

35. Metal gas piping can be considered bonded by the circuit's equipment grounding (bonding) conductor of the circuit that is likely to energize the piping.
(a) True
(b) False

36. Flexible metal conduit can be used as the equipment grounding (bonding) conductor if the length in any ground return path does not exceed 6 ft and the circuit conductors contained in the conduit are protected by overcurrent devices rated at _____ or less.
(a) 15A
(b) 20A
(c) 30A
(d) 60A

37. Liquidtight flexible metal conduit (LFMC) in ¾ through 1¼ inch trade sizes can be used as the equipment grounding (bonding) conductor if the length in any ground return path does not exceed 6 ft and the circuit conductors contained in the conduit are protected by overcurrent devices rated at _____ or less when the conduit is not installed for flexibility.
(a) 15A
(b) 20A
(c) 30A
(d) 60A

38. Equipment grounding (bonding) conductors for feeder taps must be sized in accordance with _____ based on the ampere rating of the circuit protection device ahead of the feeder, but in no case is it required to be larger than the circuit conductors.
(a) Table 250.66
(b) Table 250.94
(c) Table 250.122
(d) Table 220.19

39. Receptacle yokes designed and _____ as self-grounding are permitted to establish the bonding path between the device yoke and a grounded outlet box.
(a) approved
(b) advertised
(c) listed
(d) installed

40. Equipment bonding jumpers are not required for receptacles listed as self-grounding that have mounting screws to provide the grounding continuity between the metal yoke and the flush box.
(a) True
(b) False

Chapter 3 Wiring Methods and Materials
Article 300 Wiring Methods

41. Where nails or screws are likely to penetrate nonmetallic-sheathed cable or electrical nonmetallic tubing installed through metal framing members, a steel sleeve, steel plate or steel clip not less than _____ in thickness must be used to protect the cable or tubing. A thinner plate that provides equal or better protection may be used if listed and marked.
(a) 1/16 in.
(b) 1/8 in.
(c) 1/2 in.
(d) none of these

42. Cable or nonmetallic raceway-type wiring methods installed in a groove, to be covered by wallboard, siding, paneling, carpeting or similar finish must be protected by 1/16 inch thick _____ or by not less than 1¼ in. of free

space for the full length of the groove. A thinner plate that provides equal or better protection may be used if listed and marked.
(a) steel plate
(b) steel sleeve
(c) PVC bushing
(d) a or b

43. Nonmetallic raceways, cable trays, cablebus, auxiliary gutters, boxes, and cables with a nonmetallic outer jacket must be made of material approved for the condition and where exposed to sunlight, the materials must be _____.
(a) listed as sunlight resistant
(b) identified as sunlight resistant
(c) both a and b
(d) either a or b

Article 310 Conductors

44. Insulated conductors and cables exposed to the direct rays of the sun must be _____.
(a) covered with insulating material that is listed or listed and marked sunlight resistant
(b) listed and marked sunlight resistant
(c) listed for sunlight resistance
(d) a or b or c

45. Service and feeder conductors may be sized using Table 310.15(B)(6) for_____.
(a) any kind of service under 400 amps
(b) only multifamily dwelling services
(c) only 120/240 volt, 3-wire, 1Ø services for individual dwelling units
(d) commercial services only

Article 312 Cabinets, Cutout Boxes, and Meter Socket Enclosures

46. Plaster, drywall, or plasterboard surfaces that are broken or incomplete shall be repaired so there will be no gaps or open spaces greater than _____ at the edge of a cabinet or cutout box employing a flush-type cover.
(a) ¼ in
(b) ½ in
(c) 1/8 in
(d) 1/16 in

Article 314 Outlet, Device, Pull and Junction Boxes, Conduit Bodies, Fittings and Handhole Enclosures

47. In noncombustible walls or ceilings, the front edge of a box, plaster ring, extension ring, or listed extender may be set back not more than _____ from the finished surface.
(a) 3/8 in.
(b) 1/8 in.
(c) 1/2 in.
(d) 1/4 in.

48. Nails or screws can fasten boxes to structural members of a building using brackets on the outside of the enclosure, or they can pass through the interior within _____ of the back or ends of the enclosure. Screws are not permitted to pass through the box unless exposed threads in the box are protected using approved means to avoid abrasions of conductor insulation.
(a) 1/8 in
(b) 1/16 in

(c) ¼ in
(d) ½ in

49. Handhole enclosures must be designed and installed to withstand _____.
(a) 3,000 lb
(b) 6,000 lb
(c) all loads likely to be imposed
(d) 600 lb

50. Where handhole enclosures without bottoms are installed, all enclosed conductors and any splices or terminations, if present, must be listed as _____.
(a) suitable for wet locations
(b) suitable for damp locations
(c) handhole ready
(d) general duty.

2005 NEC Code Part 3 (05 changes 3) -Quiz Answer Sheet

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

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