

05 NEC quiz 150

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Instructions:

1. Print these pages.
2. Circle the correct answers on the answer sheet.
3. Use the 2005 NEC Code book.
4. Page down to the last page for the verification forms and mailing instructions.

1. When an underground metal water-piping system is used as a grounding electrode, effective bonding must be provided around insulated joints and around any equipment that is likely to be disconnected for repairs or replacement. Bonding conductors must be of _____ to permit removal of such equipment while retaining the integrity of the bond.

- a) stranded wire
- b) flexible conduit
- c) sufficient length
- d) none of these

250.68 (B)

2. Cases or frames of instrument transformers are not required to be grounded _____.

- a) when accessible to qualified persons only
- b) for current transformers where the primary is not over 150 volts-to-ground and that are used exclusively to supply current to meters.
- c) For potential transformers where the primary is less than 150 volts-to-ground
- d) A or B

250.172 and Ex

3. Circuit conductors that operate at 277v (with 600v insulation) may occupy the same enclosure or raceway with 48V dc conductors that have an insulation rating of 300v.

- a) True
- b) False

300.3 (C)(1)

4. What is the minimum cover requirement in inches for UF cable supplying power to a 120V, 15A GFCI-protected circuit outdoors under a driveway of a one family dwelling?

- a) 12 in.
- b) 24 in.
- c) 16 in.
- d) 6 in.

Table 300.5, Column 4

5. Where circuit conductors are spliced within a box, or terminated on equipment within or supported by a box, any equipment grounding conductors associated with those circuit conductors must be spliced or joined in the box or to the box with the devices suitable for the use. This does not apply to insulated equipment grounding conductors for isolated equipment grounding conductors for isolated ground receptacles for electronic equipment.

- a) True
- b) False

250.148 Ex

6. Wiring methods permitted in the hung ceiling area used for environmental air include _____.

- a) electrical metallic tubing
- b) flexible metal conduit of any length
- c) rigid metal conduit without an overall nonmetallic covering
- d) all of these

300.22 (C)(1)

7. A 100 ft. vertical run of 4/0 AWG copper requires the conductors to be supported at _____ locations.

- a) 4

- b) 5
- c) 2
- d) none of these

Table 300.19(A)

8. A grounding-type receptacle can replace a nongrounding-type receptacle at an outlet box that does not contain an equipment grounding conductor if the equipment grounding conductor is connected to the _____.

- a) grounding electrode system as described in 250.50
- b) grounding electrode conductor
- c) equipment grounding terminal bar within the enclosure where the branch circuit for the receptacle originates
- d) any of these

250.130 (C) (1)

9. A TVSS device must be listed.

- a) True
- b) False

285.5

10. An equipment bonding jumper for a grounding-type receptacle must be installed between the receptacle and a flush-mounted outlet box, even when the contact device is listed as self-grounding.

- a) True
- b) False

250.146 (B)

11. Backfill used for underground wiring must not _____.

- a) damage the wiring method
- b) prevent compaction of the fill
- c) contribute to the corrosion of the raceway
- d) all of these

300.5(F)

12. Bonding jumpers must be used around _____ knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard locknuts or bushings cannot be the sole means for this bonding.

- a) concentric
- b) eccentric
- c) field-punched
- d) a or b

250.92 (B)

13. Ceiling- support wires used for the support of electrical raceways and cables within nonfire rated assemblies are required to be distinguishable from the suspended-ceiling framing support wires.

- a) True
- b) False

300.11 (A)(2)

14. Conductors in raceways must be _____ between outlets, boxes, devices, and so forth.

- a) continuous
- b) installed
- c) copper
- d) in conduit

300.13(A)

15. Direct buried conductors, cables, or raceways, which are subject to movement by settlement or frost, must be arranged to prevent damage to the _____ or to equipment.

- a) siding of the building mounted on
- b) landscaping around the cable or raceway
- c) the enclosed conductors
- d) expansion fitting

300.5(J)

16. Each current-carrying conductor of a paralleled set of conductors must be counted as a current-carrying conductor for the purpose of applying the adjustment factors of 310.15(B)(2)(a).

- a) True
- b) False

310.15(B)(2) (a)

17. Electrical installations in hollow spaces, vertical shafts, and ventilation or air-handling ducts must be made so that the possible spread of fire or products of combustion will not be _____.

- a) substantially increased
- b) allowed
- c) inherent
- d) possible

300.21

18. Equipment bonding jumpers must be of copper or other corrosion-resistant material. A bonding jumper must be a _____ or similar suitable conductor.

- a) wire
- b) bus
- c) screw
- d) any of these

250.102(A)

19. Fittings and connectors must be used only with the specific wiring methods for which they are designed and listed.

- a) True
- b) False

300.15

20. In both exposed and concealed locations, where a cable or nonmetallic raceway-type wiring method is installed parallel to framing members such as joists, rafters, or studs or furring strips, the nearest outside surface of the cable or raceway must be _____ the nearest edge of the framing member where nails or screws are likely to penetrate.

- a) not less than 1 ¼ in. from
- b) immediately adjacent to
- c) not less than 1 1/16 in from
- d) 90° away from

300.4(D)

21. Liquidtight flexible metal conduit (LFMC) up to ½ in. trade size can be used as the equipment grounding 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

250.118(6)(b)

22. Metal enclosures and raceways for other than service conductors must be grounded except as permitted by 250.112(I).

- a) true
- b) false

250.86

23. Metal gas piping can be considered bonded by the circuit's equipment grounding conductor that is likely to energize the piping.

- a) true
- b) false

250.104(B)

24. Metal raceways, enclosures, frames, and other noncurrent-carrying metal parts of electric equipment installed on a building equipped with a lightning protection system may require spacing from the lightning

protection conductors, typically 6 ft. through air or ____ through dense materials, such as concrete, brick, wood, etc.

- a) 2 ft.
- b) 3 ft.
- c) 4 ft.
- d) 6 ft.

250.106FPNs

25. Metric designators and trade sizes for conduit, tubing, and associated fittings and accessories are designated in Table ____.

- a) 250.66
- b) 250.122
- c) 300.1
- d) 310.16

300.1(C)

26. 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

300.6(C)(1)

27. Raceways must be ____ between outlet, junction, or splicing points prior to the installation of conductors.

- a) installed complete
- b) tested for ground faults
- c) a minimum of 80 percent completed
- d) none of these

300.18(A)

28. Raceways, cable assemblies, boxes, cabinets, and fittings must be securely fastened in place. Support wires and associated fittings that provide secure support and that are installed in addition to the ceiling grid support wires are permitted as the sole support.

- a) true
- b) false

300.11(A)

29. Solid dielectric insulated conductors operated above 2,000V in permanent installations must have ____ insulation and must be shielded.

- a) ozone-resistant
- b) asbestos
- c) high-temperature
- d) perfluoro-alkoxy

310.6

30. The ____ is defined as the area between the top of direct-burial cable and the finished grade

- a) notch
- b) cover
- c) gap
- d) none of these

Table 300.5, Note 1

31. The ____ rating of a conductor is the maximum temperature, at any location along its length, which conductor can withstand over a prolonged period of time without serious degradation.

- a) ambient
- b) temperature
- c) maximum withstand
- d) short-circuit

310.10 FPN No. 1

32. The conductor between a surge arrester and the line and the grounding connection must not be smaller than _____ AWG copper for installations operating at 1kV or more.

- a) 4
- b) 6
- c) 8
- d) 2

280.23

33. The equipment bonding jumper on the supply side of services (service raceway) must be sized according to the _____.

- a) calculated load
- b) service-entrance conductor size
- c) service-drop size
- d) load to be served

250.102(C)

34. The general rule for equipment bonding jumpers installed on the outside of a raceway or enclosure is that they are not permitted to be longer than 6ft., but an equipment bonding jumper can be longer than 6ft/ at outside pole locations for the purpose of bonding or grounding isolated sections of metal raceways or elbows installed in exposed risers of metal conduit or other metal raceways.

- a) true
- b) false

250.102(E) Ex

35. The grounded circuit conductor is permitted to ground non-current-carrying metal parts of equipment, raceways, and other enclosures at the supply side or within the enclosure of the ac service-disconnecting means.

- a) true
- b) false

250.142(A)

36. The noncurrent-carrying metal parts of service equipment, such as _____, must be effectively bonded together.

- a) service raceways, cable trays, or service cable armor
- b) service equipment enclosures containing service conductors, including meter fittings, boxes, or the like, interposed in the service raceway or armor.
- c) the metallic raceway or armor enclosing a grounding electrode conductor
- d) all of these

250.92(A)(1),(2), and (3)

37. THW insulation has a _____ rating when installed within electric discharge lighting equipment, such as through fluorescent luminaires.

- a) 60°
- b) 75°
- c) 90°
- d) none of these

Table 310.13

38. Type AC cable can be installed in ducts or plenums that are used for environmental air.

- a) True
- b) False

300.22(B)

39. When ungrounded conductors are increased in size, the equipment grounding conductor is not required to be increased because it is not a current-carrying conductor.

- a) True
- b) False

250.122(B)

40. Where _____ conductors are run in separate raceways or cables, the same number of conductors must be used in each raceway or cable.

- a) parallel
- b) control

- c) communication
- d) aluminum

310.4

41. Where a metal box is surface-mounted, direct metal-to-metal contact between the device yoke and the box is permitted to ground the receptacle to the box. Unless the receptacle is listed as _____, at least one of the insulating retaining washers must be removed from the receptacle to ensure direct metal-to-metal contact between the device yoke and metal outlet box.

- a) self-grounding
- b) weatherproof
- c) metal contact sufficient
- d) isolated grounding

250.146(A)

42. Where accessible only to qualified persons, a box or conduit body is not required for conductors in _____ when installed in accordance with applicable Code provisions.

- a) manholes
- b) handhole enclosures
- c) a or b
- d) elevator pits

300.15(L)

43. Where an equipment grounding conductor consists of a raceway, cable tray, cable armor, cablebus framework, or cable sheath, it must be installed _____.

- a) in accordance with applicable Code provisions
- b) using fittings for joints and terminations approved for the use
- c) with all connections, joints, and fittings made tight using suitable tools
- d) all of these

250.120(A)

44. Where corrosion protection is necessary and the conduit is threaded in the field, the threads must be coated with a(n) _____, electrically conductive, corrosion-resistance compound.

- a) marked
- b) listed
- c) labeled
- d) approved

300.6(A)

45. Where installed in raceways, conductors _____ AWG and larger must be stranded.

- a) 10
- b) 6
- c) 8
- d) 4

310.3

46. Where NM Cables pass through cut or drilled slots or holes in metal members, the cable needs to be protected by _____ securely covering all metal edges fastened in the opening prior to installation of the cable.

- a) listed bushings
- b) listed grommets
- c) plates
- d) a or b

300.4(B)(1)

47. Where portions of a cable raceway or sleeve are subjected to different temperatures and where condensation is known to be a problem, as in cold storage areas of buildings or where passing from the interior to the exterior of a building, the _____ must be filled with an approved material to prevent the circulation of warm air to a colder section of the raceway or sleeve.

- a) raceways
- b) sleeve
- c) a or b
- d) none of these

300.7(A)

48. Where required to reduce electric noise for the electronic equipment, electrical continuity of the metal raceway is not required and the metal raceway can terminate to a(n) _____ nonmetallic fitting(s) or spacer on the electronic equipment.

- a) listed
- b) labeled
- c) identified
- d) marked

250.96(B) and 300.10 Ex 2

49. Which conductor has an insulation temperature rating of 90° C?

- a) RH
- b) RHW
- c) THHN
- d) TW

Table 310.13

50. Which of the following appliances installed in residential occupancies need not be grounded?

- a) toaster
- b) aquarium
- c) dishwasher
- d) refrigerator

250.114(3)(a) and (b)

Necquiz150 part 2

1. A permanently-mounted luminaire (fixture) in a commercial garage and located over lanes on which vehicles are commonly drive must be located not less than _____ above floor level.

- a) 10 ft.
- b) 12 ft.
- c) 14 ft.
- d) none of these

511.7(B)(1)(b)

2. A pool capable of holding water to a maximum depth of _____ is a storable pool.

- a) 18 in.
- b) 36 in.
- c) 42 in.
- d) none of these

680.2

3. A pool light junction box that has a raceway that extends directly to underwater pool light forming shells must be located not less than _____ from the outdoor pool or spa.

- a) 2 ft.
- b) 3 ft.
- c) 4 ft.
- d) 6 ft.

680.24(A)(2)(b) and 680.24(B)

4. A sealing fitting must be installed within _____ of either side of the boundary where a conduit leaves a Class 1, Division 1 location. The sealing fitting must be designed and installed so as to minimize the amount of gas or vapor within the Division 1 portion of the conduit being communicated beyond the seal.

- a) 5 ft.
- b) 6 ft.
- c) 8 ft.
- d) 10 ft.

501.15(A)(4)

5. A single receptacle is a single contact device with no other contact device on the same _____.

- a) circuit
- b) yoke
- c) run

d) equipment

100 Receptacle

6. A Solderless pressure connector is a device that _____ between two or more conductors or between one or more conductors and a terminal by means of pressure and without the use of solder.

a) provides access

b) protects wiring

c) is never needed

d) establishes a connection

100 Connector, Pressure (Solderless)

7. A standard circuit breaker mounted in a Class 1, Division 2 location with make-and-break contacts, and not hermetically sealed or oil-immersed, must be installed in a Class 1, Division 1 rated enclosure.

a) true

b) false

501.115(B)(1)

8. A strut-type channel raceway is a metallic raceway intended to be mounted to the surface of, or suspended from, a structure with associated accessories for the installation of electrical conductors.

a) true

b) false

384.2

9. A surface mount strut-type channel raceway must be secured to the mounting surface with retention straps external to the channel as intervals not exceeding _____ and within 3 ft. of each outlet box, cabinet, junction box, or other channel raceway termination.

a) 3 ft.

b) 5 ft.

c) 6 ft.

d) derating

384.30(A)

10. A surge arrester is a protective device for limiting surge voltages by _____ or bypassing surge current.

a) decreasing

b) discharging

c) limiting

d) derating

280.2

11. A transfer switch is required for all fixed or portable optional standby power systems for building or structures for which an electric-utility supply is either the normal or standby source.

a) true

b) false

702.6

12. A value assigned to a circuit or system for the purpose of conveniently designating its voltage class such as 120/240V is called _____ voltage.

a) root-mean square

b) circuit

c) nominal

d) source

100 Voltage, Nominal

13. A wall-mounted luminaire weighting not more than _____ can be supported to a device box with no fewer than two No. 6 or larger screws.

a) 4 lbs.

b) 6 lbs.

c) 8 lbs.

d) 10 lbs.

314.27(A) Ex

14. A(n) _____ I intended to provide limited overcurrent protection for specific applications and utilization equipment, such as luminaires and appliances. This limited protection is in addition to the protection provided by the required branch circuit overcurrent protective device.

- a) supplementary overcurrent protective device
- b) transient voltage surge suppressor
- c) arc-fault circuit interrupter
- d) Class A GFCI

100 Supplementary Overcurrent Protective Device

15. AC circuit of less than 50V must be grounded if supplied by a transformer whose supply system exceeds 150 volts-to-ground.

- a) true
- b) false

250.20(A)(1)

16. Additional services are permitted for different voltages, frequencies, or phases, or for different uses such as for _____.

- a) gymnasiums
- b) different rate schedules
- c) flea markets
- d) special entertainment events

230.2(D)

17. Agricultural building where excessive dust and dust with water may accumulate, are defined as including all areas of _____ confinement systems, where litter dust or feed dust, including mineral feed particles may accumulate.

- a) poultry
- b) livestock
- c) fish
- d) all of these

547.1(A)

18. All 125-vol, single-phase, 15 and 20 ampere receptacles installed in aircraft hangers in areas where _____ is (are) used must have ground fault circuit interrupter protection for personnel.

- a) electrical diagnostic equipment
- b) electrical hand tools
- c) portable lighting equipment
- d) any of these

513.12

19. All 15 and 20A, 125 single-phase receptacles _____ of commercial occupancies must have GFCI protection for personnel. (answers on next page)

- a) in bathrooms
- b) on rooftops
- c) in kitchens
- d) all of these

210.2(B)(1),(2), and (3)

20. All 15 and 20A, 125V single-phase receptacles installed in pits, in hoistways, on elevator car tops, and in escalator and moving walk wellways must be _____.

- a) on a GFCI-protected circuit
- b) of the GFCI type
- c) a or b
- d) none of these

620.85

21. All 15 and 20A, 125V single-phase general-purpose receptacles installed _____ of agricultural buildings must have ground-fault circuit-interrupter protection for personnel.

- a) in areas having a equipotential plane
- b) outdoors
- c) in dirt confinement areas for livestock

- d) any of these
547.5(G)

22. All 15, 20, and 30A, 125V, single-phase receptacle outlets used by personnel for temporary power must have ground-fault circuit-interrupter protection for personnel. GFCI protection can be incorporated into a _____ or other devices incorporating listed GFCI protection for personnel identified for portable use.

- a) circuit breaker
- b) receptacle
- c) cord set
- d) any of these

590.6(A)

23. All accessible portions of abandoned CATV cable must be removed.

- a) true
- b) false

820.3(A)

24. All accessible portions of abandoned communications cable must be removed.

- a) true
- b) false

800.3(C)

25. All accessible portions of abandoned fire alarm cable must be removed.

- a) true
- b) false

760.3(A)

26. All applicable articles of the *Code* apply to intrinsically safe systems except where specifically modified by article 504.

- a) true
- b) false

504.3

27. All areas designated as hazardous (classified) must be properly _____ and the documentation must be available to those authorized to design, install, inspect, maintain, or operate electrical equipment at these locations.

- a) cleaned
- b) documented
- c) maintained
- d) all of these

500.4(A)

28. 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

210.12(B)

29. All cut ends of rigid metal conduit must be _____ or otherwise finished to remove rough edges.

- a) threaded
- b) reamed
- c) painted
- d) galvanized

344.28

30. All electric equipment, including power-supply cords, used with storable pools must be protected by _____.

- a) fuses
- b) circuit breakers
- c) double-insulation
- d) GFCI

680.32

31. All electrical connections in marinas and boatyards must be located _____.
a) at least 12 in. above the deck of a floating pier
b) not less than 12 in. above the deck of a fixed pier
c) not below the electrical datum plane
d) all of these

555.9

32. All joints between lengths of rigid nonmetallic conduit, and between conduit and couplings, fittings, and boxes must be made by _____.
a) the authority having jurisdiction
b) set screw fittings
c) an approved method
d) expansion fittings

352.48

33. All receptacles for temporary branch circuits are required to be electrically connected to the _____ conductor.
a) grounded
b) grounding
c) equipment grounding
d) grounding electrode

590.4(D)

34. All threaded conduit or fittings referred to in hazardous (classified) locations must be made wrench tight in order to _____.
a) prevent sparking when a fault current flows
b) ensure the explosion proof or flameproof integrity of the conduit system
c) a and b
d) none of these

500.8(D)

35. All wiring for Class 1 circuits must be installed in accordance with Article 300 and the other appropriate articles in Chapter 4.
a) true
b) false

725.25

36. All wiring must be installed so that the completed system will be free from _____, other than required or permitted in Article 250.
a) short circuits
b) grounds
c) a and b
d) none of these

110.7

37. Aluminum cable trays must not be used as an equipment grounding conductor for circuits with ground-fault protection above _____.
a) 2,000A
b) 300A
c) 500A
d) 1,200A

Table 392.7(B)(2), Note b

38. Aluminum conductors, and copper-clad aluminum conductors are permitted only for branch-circuit wiring in mobile homes.
a) true
b) false

550.15

39. An 8 AWG or larger solid copper equipotential bonding conductor, measured from the pint in the box where the conductors enters the enclosure to eliminate voltage gradients in the pool area.
a) true

b) false

680.26FPN

40. An 8 x 8 x 4 in. deep junction/ splice box requires 6 in. of free conductor, measured from the point in the box where the conductors enter the enclosure. The 3 in. of conductor outside-the-box rule _____.

- a) does apply
- b) does not apply
- c) sometimes applies
- d) none of these

300.14

41. An alternate ac power source such as an onsite generator is not a separately derived system if the _____ is solidly interconnected to a service-supplied system neutral.

- a) ignition system
- b) fuel cell
- c) neutral
- d) line conductor

250.20(D) FPN No. 1

42. An electric connector is a device that, by insertion into an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of charging and information exchange.

- a) true
- b) false

625.2 Electric Vehicle Connector

43. An equipment grounding conductor must be identified by _____.

- a) a continuous outer finish that is green
- b) being bare
- c) a continuous outer finish that is green with one or more yellow stripes
- d) any of these

250.119

44. An equipotential plane is an area where wire mesh or other conductive elements are embedded in or placed under concrete bonded to _____.

- a) all metal structures
- b) fixed non electrical equipment that may be energized
- c) the electrical grounding system
- d) all of these

547.2

45. An equipotential plane must be installed in all concrete floor confinement areas of livestock buildings and all outdoor confinement areas that contain metallic equipment that is accessible to animals and that may become energized.

- a) true
- b) false

547.10(A)

46. An exothermic or irreversible compression connection to fireproofed structural metal is required to be accessible.

- a) true
- b) false

250.68(A) Ex 2

47. An exposed wiring system for indoor wet location where walls are frequently washed must be mounted so that there is at least _____ between the mounting surface and the electrical equipment.

- a) a ¼ in. airspace
- b) separation by insulated by bushings
- c) separation by non combustible tubing
- d) none of these

300.6(D)

48. Any current in excess of the rated current of equipment, or the ampacity of a conductor, is called _____.

- a) trip current

- b) faulted
- c) overcurrent
- d) none of these

100 Overcurrent

49. Any pit or depression below a garage floor level of a lubrication or service room where Class 1 liquids are not transferred is considered to be a Class 1, Division _____ location up to floor level and extending 18 in. above floor level and 3 ft. horizontally.

- a) 1
- b) 2
- c) 3
- d) not classified

511.3(B)(2)(1) and (2)

50. Any pit or depression below the level of aircraft hangar floor is classified as a _____ location that extends up to said floor level.

- a) Class I, Division 1 or Zone 1
- b) Class I, Division 2
- c) Class II, Division 1
- d) Class III

513.3(A)

Necquiz150 part 3

1. An insulated grounded conductor of _____ or smaller must be identified by a continuous white or gray outer finish, or by three continuous white stripes on other than green insulation along its entire length.

- a) 3 AWG
- b) 4 AWG
- c) 6 AWG
- d) 8 AWG

200.6(A)

2. _____ must not be installed beneath openings through which materials may be moved, such as openings in farm and commercial buildings, and must not be installed where they will obstruct entrance to these building openings.

- a) Overcurrent protection devices
- b) Overhead branch-circuit and feeder conductors
- c) Grounding Conductors
- d) Wiring systems

225.19(D)(3)

3. Service-entrance or feeder conductors whose demand load is determined by the optional calculation, as permitted in 220.88, are not permitted to have the neutral load determined by 220.61.

- a) true
- b) false

220.88

4. A building or structure must be supplied by a maximum of _____ service(s).

- a) one
- b) two
- c) three
- d) as many as desired

230.2

5. A receptacle connected to a small-appliance circuit can supply gas-fired ranges, ovens, or counter-mounted cooking units.

- a) true
- b) false

210.52(B)(2) Ex 1

6. A receptacle outlet for the laundry is not required in a dwelling unit in a multifamily building when laundry facilities that are available to all building occupants are provided in the premises.

- a) true

b) false

210.52(F) Ex 1

7. A receptacle outlet must be installed in dwelling units for every kitchen and dining area countertop space _____, and no point along the wall line can be more than 2 ft, measured horizontally, from a receptacle outlet in that space.

- a) wider than 10 in.
- b) wider than 3 ft.
- c) 18 in, or wider
- d) 12 in. or wider

210.52(C)(1)

8. A single piece of equipment consisting of a multiple receptacle comprised of _____ or more receptacles must be computed as not less than 90 VA per receptacle.

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

220.14(I)

9. All 15 and 20A, 125V single-phase receptacles installed in crawl spaces at or below grade level and in _____ of dwelling units must have GFCI protection for personnel.

- a) unfinished attics
- b) finished attics
- c) unfinished basements
- d) finished basements

210.8(A)(4) and (5)

10. All ungrounded (hot) conductors from two or more branch circuits terminating on multiple devices or equipment on the same yoke must have a means to be disconnected simultaneously in _____ occupancies.

- a) dwelling unit
- b) commercial
- c) industrial
- d) all of these

210.7(B)

11. At least one receptacle outlet must be installed directly above a show-window for each _____, or major fraction thereof, of show-window area measured horizontally at its maximum width.

- a) 10 ft.
- b) 12 ft.
- c) 18 ft.
- d) 24 ft.

210.62

12. 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

210.70(B) Ex 1

13. Dwelling unit or mobile home feeder conductors need not be larger than the service conductors and are permitted to be sized according to 310.15(B)(6).

- a) true
- b) false

215.25(A)(3)

14. For other than dwelling units or guest rooms of hotels or motels, the feeder and service load calculation for track lighting is to be determined at 150VA for every _____ track installed.

- a) 4 ft.

- b) 6 ft.
- c) 2 ft.
- d) none of these

220.43(B)

15. GFCI protection for personnel is required for all 15 and 20A, 125V single-phase receptacles installed _____ of commercial, industrial, n all other non dwelling occupancies.

- a) in storage rooms
- b) in equipment rooms
- c) in warehouse
- d) in bathrooms

210.8(B)(1)

16. GFCI protection for personnel is required for all 15 and 20A, 125V single-phase receptacles installed in a dwelling unit _____.

- a) attic
- b) garage
- c) laundry
- d) all of these

210.8(A)(2)

17. Ground-fault protection of equipment is required of the feeder disconnect if _____.

- a) the feeder is rated 1,000A or more
- b) it is a solidly-grounded wye system
- c) it is more than 150 volts-to-ground, but not exceeding 600V phase-to-phase
- d) all of these

215.10

18. Guest rooms in hotels, motels, and similar occupancies without permanent provisions for cooking must have receptacle outlets installed in accordance with 210.52(A) and 210.52(D).

- a) true
- b) false

210.60(A)

19. If a dwelling unit is served by a single 1-phase, 3-wire, 120/240V or 1220/208V set of service-entrance or feeder conductors with an ampacity of _____ or greater, it is permissible to compute the feeder and service loads in accordance with 220.82 instead of the method specified in Part III of Article 220.

- a) 100
- b) 125
- c) 150
- d) 175

220.82(A)

20. In a dwelling unit, the minimum required receptacle outlets must be in addition to receptacle outlets that are _____.

- a) part of a luminaire or appliance
- b) located within cabinets or cupboards
- c) located more than 5 ½ ft. above the floor
- d) all of these

210.52

21. In dwelling units, at least one wall receptacle outlet must be installed in bathrooms within _____ of the outside edge of each basin. The receptacle outlet must be located on a wall or partition that is adjacent to the basin or basin countertop.

- a) 12 in.
- b) 18 in.
- c) 24 in.
- d) 36 in.

210.52(D)

22. In other than dwelling units, GFCI protection is required _____.

- a) for outdoor 15 and 20A, 125V single-phase receptacles accessible to the public

- b) at an accessible location for HVAC equipment
- c) both a and b
- d) neither a nor b

210.8(B)(4) & (5)

23. Loads that are computed for dwelling unit small-appliance branch circuits can be included with the _____ load and subject to the demand factors permitted in Table 220.42 for the general lighting load.

- a) general lighting
- b) feeder
- c) appliance
- d) receptacle

220.52(A)

24. 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

225.30(B)(2)

25. Multioutlet circuits rated 15 or 20A can supply fixed appliances (utilization equipment fastened in place) as long as the fixed appliances do not exceed _____ percent of the circuit rating.

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

210.23(A)(2)

26. Overhead conductors installed over roofs must have a vertical clearance of _____ above the roof surface.

- a) 8 ft.
- b) 12 ft.
- c) 15 ft.
- d) 3 ft.

225.19(A)

27. Overhead-service conductors to a building must maintain a vertical clearance for final spans above, or within, _____ measured horizontally from the platforms, projections, or surfaces from which they might be reached.

- a) 3 ft.
- b) 6 ft.
- c) 8 ft.
- d) 10 ft.

230.9(B)

28. Receptacle outlets in floors are not counted as part of the required number of receptacle outlets to service dwelling unit wall spaces unless they are located within _____ of the wall.

- a) 6 in.
- b) 12 in.
- c) 18 in.
- d) close to the wall

210.52(A)(3)

29. Service conductors supplying a building or other structure must not _____ of another building or other structure.

- a) be installed on the exterior walls
- b) pass through the interior
- c) a and b
- d) none of these

230.3

30. Service-drop conductors must have a minimum of _____ vertical clearance from final grade over residential property and driveways, as well as those commercial areas not subject to truck traffic where the voltage is limited to 300 volts-to-ground.

- a) 10 ft.
- b) 12 ft.
- c) 15 ft.
- d) 18 ft.

230.24(B)(2)

31. The 3 VA per-square foot general lighting load for dwelling units does not include _____.

- a) open porches
- b) garages
- c) unused or unfinished spaces not adaptable for future use
- d) all of these

220.12

32. The calculated load to which the demand factors of Table 220.84 apply must include 3 VA per _____ for general lighting and general use receptacles.

- a) inch
- b) foot
- c) square inch
- d) square foot

220.84(C)(2)

33. The feeder demand load for nine 16 kw ranges is _____.

- a) 15,000W
- b) 28,800W
- c) 20,000W
- d) 26,000W

Table 220.55, Note 1

34. The grounded conductor of a 3-wire branch circuit supplying a household electric range is permitted to be smaller than the ungrounded conductors when the maximum demand of a range of 8.75 kW or more rating has been computed according to Column C of Table 220.19. However, the ampacity of the grounded conductor must not be less than _____ percent of the branch circuit rating and not be smaller than _____ AWG.

- a) 50, 6
- b) 70, 6
- c) 50, 10
- d) 70, 10

210.19(A)(3) Ex 2

35. The identification of _____ to which a grounded conductor is to be connected must be substantially white in color.

- a) wire conductors
- b) circuit breakers
- c) terminals
- d) ground rods

200.9

36. The location of the arc-fault circuit interrupter can be at other than the origination of the branch circuit if _____.

- a) the arc fault circuit interrupter is installed within 6 ft. of the branch circuit overcurrent device
- b) the circuit conductors up to the arc-fault circuit interrupter are in a metal raceway or a cable with a metallic sheath
- c) both a and b
- d) none of these

210.12(B) Ex

37. The minimum point of attachment of overhead conductors to a building must in no case be less than _____ above finished grade.

- a) 8 ft.

- b) 10 ft.
- c) 12 ft.
- d) 15 ft.

225.16 and 230.26

38. The minimum size service-drop conductor permitted by the *Code* is ____ AWG copper or _____ AWG aluminum copper-clad aluminum.

- a) 8, 6
- b) 6, 8
- c) 6, 6
- d) 8, 8

230.23(B)

39. The rating of a branch circuit is determined by the rating of the _____.

- a) ampacity of the largest device connected to the circuit
- b) average of the ampacity of all devices
- c) branch-circuit overcurrent protection
- d) ampacity of the branch circuit conductors according to Table 310.16

210.3

40. The two to six disconnects as permitted by 225.33 just be _____. Each disconnect must be marked to indicate to the load served.

- a) the same size
- b) grouped
- c) in the same enclosure
- d) none of these

225.34(A)

41. There must be a minimum of one ____ branch circuit for the laundry outlet(s) in a dwelling unit.

- a) 15A
- b) 20A
- c) 30A
- d) 24A

210.11(C)(2)

42. To determine the feeder demand load for ten 3 kW household cooking appliance, use _____ of Table 220.19.

- a) Column A
- b) Column B
- c) Column C
- d) none of these

220.55 and Table 220.55

43. What is the maximum cord-and-plug connected load permitted on a 15A receptacle that is supplied by a 20A circuit supplying multiple outlets?

- a) 12A
- b) 16A
- c) 20A
- d) 24A

210.21(B)(2) and Table 210.21(B)(2)

44. When applying the demand factors of Table 220.56, in no case can the feeder or service demand load be less than the sum of _____.

- a) the total number of receptacles at 180 VA per receptacle outlet
- b) the VA rating of all of the small appliance circuits combined
- c) the largest two kitchen equipment loads
- d) the kitchen heating and air conditioning loads

220.56

45. 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

210.52(C)(4)

46. When considering lighting outlets in dwelling units, a vehicle door in a garage is considered an outdoor entrance.

- a) true
- b) false

210.70(A)(2)(b)

47. When the building disconnecting means is a power-operated switch or circuit breaker, it must be able to be opened by hand in the event of a _____.

- a) ground fault
- b) short circuit
- c) power surge
- d) power-supply failure

225.38(A)

48. Where grounded conductors of different wiring systems are installed in the same raceway, cable, or enclosure, each grounded conductor must be identified by a different one of the acceptable methods in order to distinguish the grounded conductors of each system from the other.

- a) true
- b) false

200.6(D)

49. Where more than one nominal voltage exists in a building, each ungrounded conductor of a branch circuit, where accessible, must be identified by system. The identification can be _____ and must be permanently posted at each branch-circuit panel board.

- a) color-coding
- b) phase tape
- c) tagging
- d) any of these

210.5(C)

50. Which rooms in a dwelling unit must have a switch-controlled lighting outlet?

- a) Every habitable room
- b) bathrooms
- c) hallways and stairways
- d) all of these

210.70(A),(1) and (2)

05 NEC quiz 150 Answer Sheet

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

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

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

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