



2017 Residential Code Practice Exam - 100 Question

1. A surge protective device (SPD) shall be marked with a short-circuit current rating and shall not be installed at a point on the system where the available fault current in excess of that rating. This marking requirement shall not apply to _____.
 - A. receptacles
 - B. lighting
 - C. AFCI circuits
 - D. GFCI circuits
2. Type S fuse-holders and adaptors shall be _____ so that either the fuse-holder itself or the fuse-holder with a Type S adaptor inserted cannot be used for any fuse other than a Type S fuse.
 - A. registered
 - B. installed
 - C. labeled
 - D. designed
3. The demand load for (5) dryers in a single family dwelling unit, rated at 6,000VA each, is _____.
 - A. 30,000VA
 - B. 25,500VA
 - C. 24,000VA
 - D. 22,500VA
4. The total A/C and heating load for a single-family dwelling unit with a 240V, 18,000 VA heating load and a 240V 12,000VA A/C load is _____.
 - A. 30,000VA
 - B. 21,000VA
 - C. 18,000VA
 - D. 12,600VA
5. Equipment intended to interrupt current at fault levels shall have an interrupting rating at nominal circuit voltage _____ the current that is available at the line terminals of the equipment.

- A. ten times
 - B. more than
 - C. less than
 - D. at least equal to
6. A box containing pendant- or flush-mounted receptacles attached to a multiconductor cable via strain relief or a multipole connector is:
- A. a junction box
 - B. a joint box
 - C. a drop box
 - D. a 1900 box
7. Service conductors installed as open conductors or multi conductor cable without an overall outer jacket shall have a clearance of _____ from windows that are designed to be opened, doors, porches, balconies, ladders, stairs, fire escapes, or similar locations.
- A. not more than 4 feet
 - B. not less than 3 feet
 - C. not less than 4 feet
 - D. not more than 3 feet not
8. Panelboard cabinets and panelboard frames, if of metal, shall be in physical contact with each other and shall be connected to a(n) _____.
- A. equipment grounding conductor
 - B. branch circuit neutral
 - C. ground ring
 - D. isolated terminal bar
9. Audio system equipment supplied by branch-circuit power shall not be placed horizontally within _____ of the inside wall of a pool.
- A. 5 ft
 - B. 7 ft
 - C. 10 ft
 - D. 25 ft
10. Electrical continuity at service equipment, service raceways, and service conductor enclosures shall be ensured by one of the following methods:
- A. Bonding equipment to the grounded service conductor
 - B. Threadless couplings and connectors if made up tight for metal raceways and metal-clad cables
 - C. Connections utilizing threaded couplings or threaded hubs on enclosures if made up wrench tight
 - D. All of these

11. In an outside branch circuit, open conductors shall be separated from open conductors of other circuits or systems by not less than _____.
- A. 4 in
 - B. 6 in
 - C. 8 in
 - D. 10 in
12. In dormitories overcurrent devices, other than supplementary overcurrent protection, _____ be permitted to be located in bathrooms.
- A. shall
 - B. shall not
 - C. may
 - D. should
13. What's the ampacity of 4 current carrying 8 AWG THHN conductors installed in an ambient temperature of 90°F?
- A. 65.25A
 - B. 48.75A
 - C. 42.25A
 - D. 22.32A
14. Snap switches are considered to be part of an effective ground-fault current path when _____.
- A. the switch is connected to the intersystem bonding termination
 - B. the switch is mounted with metal screws to a metal box or a metal cover that's connected to an equipment grounding conductor
 - C. an equipment grounding conductor or equipment bonding jumper is connected to an equipment grounding termination of the snap switch
 - D. the switch is designed with two separable equipment grounding terminals.
 - E. B or C
15. Swimming pool electrical equipment shall be permitted to be installed in rooms or pits that do not have drainage that prevents water accumulation during normal operation or filter maintenance.
- A. FALSE
 - B. TRUE
16. How many 1/0 AWG XHHW-2 conductors shall be permitted to be installed in a run of 2" EMT?
- A. 4
 - B. 5
 - C. 6
 - D. 7

17. A building or other structure that is served by a branch circuit or feeder on the load side of a service disconnecting means shall be supplied by only one feeder or branch circuit unless:
- A. fed from a fire pump disconnecting means
 - B. supplying multiple-occupancy buildings where there is no space available for supply equipment accessible to all occupants
 - C. where the capacity requirements are in excess of 600A at a supply voltage of 250V or less
 - D. the building is zoned as dual-purpose or mixed-occupancy
18. What is the allowable ampacity for (6) 1/0 AWG THW copper conductors in a raceway inside of a 104°F room?
- A. 96.5A
 - B. 102.5A
 - C. 105.6A
 - D. 124.4A
19. The minimum sized TW copper branch-circuit conductors feeding a 35A continuous load shall be:
- A. 6 AWG
 - B. 8 AWG
 - C. 10 AWG
 - D. 12 AWG
20. The locked-rotor current of each single-phase hermetic refrigerant motor-compressor having a rated-load current of more than 9 amperes at 115 volts, or more than 4.5 amperes at 230 volts, and each polyphase motor-compressor shall _____.
- A. have conductors sized no less than 125% of it's locked-rotor current
 - B. be marked on the motor-compressor nameplate
 - C. be used to calculate its disconnecting mean ampere rating.
 - D. have conductors sized no less than 100% of it's locked-rotor current
21. The output circuits of the power supply feeding low voltage lighting systems shall be rated for _____ maximum under all load conditions.
- A. 15A
 - B. 20A
 - C. 25A
 - D. 30A
22. Type AC cable shall be permitted to be _____.
- A. installed in damp or wet locations
 - B. installed where subject to physical damage
 - C. to be run or fished in the air voids of masonry block or tile walls where such walls are exposed or subject to excessive moisture or dampness
 - D. embedded in plaster finish or brick or other masonry except in wet locations

23. Double-throw knife switches shall be permitted to be mounted so that the throw is _____.
- A. vertical
 - B. horizontal
 - C. either vertical or horizontal
 - D. lockable
24. For permanently connected appliances rated over 300VA, the circuit breaker shall be permitted to serve as the disconnecting means where the switch or circuit breaker _____ from the appliance or is lockable.
- A. is within sight
 - B. is accessible
 - C. is remote
 - D. is inaccessible
25. A unit that is built on a single chassis mounted on wheels and has a gross trailer area not exceeding 400 ft² in the set-up mode is considered a(n):
- A. Recreational Vehicle
 - B. Mobile Home
 - C. Park Trailer
 - D. Portable Trailer
26. The total marked rating of a cord- and attachment-plug-connected room air conditioner shall not exceed _____ of the rating of a branch circuit where no other loads are supplied.
- A. 75%
 - B. 80%
 - C. 90%
 - D. 125%
27. A multioutlet assembly shall be permitted to be installed _____.
- A. where subject to severe physical damage
 - B. in hoistways
 - C. where the voltage is 300 volts or more between conductors
 - D. in dry locations
28. In ferrous metal enclosures all phase conductors and, where used, the grounded conductor and all equipment grounding conductors shall be _____.
- A. spaced evenly
 - B. grouped together
 - C. bundled in groups of three
 - D. kept separate

29. Receptacle outlets of park trailers shall be installed at wall spaces _____ wide or more so that no point along the floor line is more than 6 ft, measured horizontally, from an outlet in that space.

- A. 2 ft
- B. 3 ft
- C. 4 ft
- D. 6 ft

30. Vegetation such as trees _____ be used for support of overhead service conductors or service equipment.

- A. shall
- B. shall be permitted to
- C. and bushes shall be permitted to be
- D. shall not

31. Select the ampacity for (3) 6 AWG THWN conductors installed in a 2" EMT raceway inside a building with an ambient temperature of 57°F.

- A. 75A
- B. 65A
- C. 60A
- D. 55A

32. The use of strut-type channel raceways shall not be permitted _____.

- A. in locations subject to corrosive vapors where not protected by finishes approved for the condition
- B. where concealed
- C. in dry locations
- D. as power poles

33. Luminaires shall be wired so that the screw shells of lamp holders are connected to the same luminaire or circuit conductor or terminal. The _____, where connected to a screw shell lampholder, shall be connected to the screw shell.

- A. ungrounded conductor
- B. equipment grounding conductor
- C. grounded conductor
- D. bonding jumper

34. Receptacles rated _____ and designed for the direct connection of aluminum conductors shall be marked CO/ALR.

- A. 30 amperes or less
- B. 20 amperes or more
- C. 20 amperes or less
- D. 15 amperes or more

35. All electric pool water heaters shall have the heating elements subdivided into loads not exceeding _____ and protected at not over 60A.
- A. 30A
 - B. 48A
 - C. 50A
 - D. 100A
36. Temporary holiday decorative lighting shall be permitted for a period not to exceed _____ days.
- A. 30
 - B. 60
 - C. 90
 - D. 120
37. The ampacity of UF cable shall be that of _____.
- A. 30°C (86°F)
 - B. 40°C (104°F)
 - C. 60°C (140°F)
 - D. 75°C (167°F)
38. The connection of a grounding electrode conductor or bonding jumper to a grounding electrode shall be made in a manner that will ensure _____.
- A. an effective grounding path
 - B. an effective bonding path
 - C. a separately derived system remains isolated
 - D. all ungrounded conductors open simultaneously
39. Where not allowed through special conditions, a building or other structure that is served by a branch circuit or feeder on the load side of a service disconnecting means shall be supplied by _____.
- A. only one feeder or branch circuit
 - B. two or less feeders or branch circuits
 - C. multiple feeders or branch circuits
 - D. none of the above
40. A(n) _____ is a conducting object through which a direct connection to earth is established.
- A. equipment grounding electrode conductor
 - B. grounded Conductor
 - C. ground Bus Bar
 - D. grounding Electrode

41. _____ protection shall be provided for outlets that supply dishwashers installed in dwelling unit kitchens.
- A. AFCI
 - B. GFCI
 - C. Surge
 - D. Lightning
42. Screws used for the purpose of attaching receptacles to a box shall be machine screws having _____ threads per inch.
- A. 32
 - B. 30
 - C. 21
 - D. 18
43. The frames of ranges, wall-mounted ovens, counter-mounted cooking units, and _____ shall be permitted for existing installations to be connected to the grounded circuit conductor.
- A. refrigerators
 - B. dishwashers
 - C. clothes dryers
 - D. washing machines
44. Nonmetallic-sheathed cable shall be supported and secured by staples; straps, hangers, or similar fittings designed and installed so as not to damage the cable, at intervals not exceeding 4 1/2 ft and within _____ inches of every cable entry into enclosures.
- A. 30
 - B. 24
 - C. 18
 - D. 12
45. All 15- and 20A, 125- and 250V non-locking type receptacles in dwelling units shall be listed _____ receptacles.
- A. tamper-resistant
 - B. isolated
 - C. bonded
 - D. vertically mounted
46. Where PV source and output circuits operating at voltages greater than 30 volts are installed in readily accessible locations, circuit conductors shall be guarded or installed in _____ or in raceway.
- A. pairs
 - B. perpendicular lines to the structure
 - C. Type MC cable

D. parallel

47. No parts of cord-connected luminaires shall be located within a zone measuring horizontally _____ feet and 8 feet vertically from the top of the bathtub rim or shower stall threshold.

- A. 3
- B. 4
- C. 5
- D. 6

48. In a dwelling unit, receptacles installed in _____ must be protected by a GFCI receptacle.

- A. bedrooms
- B. bathrooms
- C. attics
- D. dining rooms

49. In dwellings, a receptacle outlet shall be installed at each wall countertop that is _____ inches or wider.

- A. 6
- B. 12
- C. 18
- D. 36

50. In a dwelling unit which of the following areas are not required to be AFCI protected?

- A. Garages
- B. Bedrooms
- C. Laundry areas
- D. Hallways

51. In which area shall all 120V, single-phase, 15-and-20A dwelling branch circuits supplying outlets or devices, be protected by an AFCI device?

- A. kitchens, dining rooms, garages
- B. recreation rooms, closets, exterior patios
- C. kitchens, libraries, bathrooms
- D. family rooms, living rooms, bedrooms

52. A pool panel requires (3) 6 AWG THHN conductors to feed it, what is the minimum sized schedule 40 PVC conduit that can be used as a raceway for these conductors?

- A. 1/2 inch
- B. 3/4 inch
- C. 1 inch
- D. 1 1/4 inch

53. A Single-Phase, 3-wire 240V service has 2/0 copper ungrounded service entrance conductors, what is the minimum size grounding electrode conductor that must be installed?
- A. 1/0 copper
 - B. 2 AWG copper
 - C. 4 AWG Copper
 - D. 6 AWG copper
54. Completed wiring installations shall be free from short circuits, ground faults, or _____ other than as required or permitted
- A. any arc faults
 - B. any debris
 - C. any interruption
 - D. any connections to ground
55. The overhead conductors between the service point and the first point of connection to the service-entrance conductors at the building or other structure are defined as:
- A. Overhead Service Conductors
 - B. Service Lateral
 - C. Service Drop
 - D. Feeders
56. At least one receptacle(s) outlet shall be installed in bathrooms within _____ feet of the outside edge of each basin.
- A. 3
 - B. 4
 - C. 5
 - D. 6
57. Equipment intended to interrupt current at fault levels shall have an interrupting rating at nominal circuit voltage _____ the current that is available at the line terminals of the equipment.
- A. less than
 - B. more than
 - C. at least equal to
 - D. at least 125% above
58. Direct-burial cables installed under a two-family driveway shall be buried at a depth of _____.
- A. 6 inches
 - B. 12 inches
 - C. 18 inches
 - D. 24 inches

59. A _____ is an enclosure designed for surface mounting that has swinging doors or covers secured directly to and telescoping with the walls of the enclosure.
- A. cutout box
 - B. panelboard
 - C. switchgear
 - D. cabinet
60. Where caution, warning, or danger signs or labels are required, the labels shall be _____.
- A. affixed to the front face of the equipment they protect
 - B. permanently affixed to the equipment or wiring method and shall not be handwritten
 - C. red or yellow in color
 - D. permitted to be legibly marked with marker or similar means
61. Exposed runs of insulated wires and cables that have a bare lead sheath or a braided outer covering shall be _____ to prevent physical damage to the braid or sheath.
- A. protected with conduit
 - B. direct buried
 - C. covered with 1/8" of steel or similar protection
 - D. supported in a manner designed
62. The minimum sized equipment grounding conductor (EGC) required to ground equipment served by a 40A rated branch-circuit is _____ AWG copper.
- A. 8
 - B. 10
 - C. 12
 - D. 14
63. When calculating a service load, a load of not less than _____ volt-amperes shall be included for each 2-wire laundry branch circuit installed.
- A. 1500
 - B. 1200
 - C. 950
 - D. 3000
64. Two single-pole switches capable of individual operation shall be permitted on multiwire circuits provided they are equipped with identified handle ties to disconnect all ungrounded conductors _____.
- A. so long as each multi-wire branch circuit is separately identified
 - B. with no more than 6 operations of the hand
 - C. in branch circuits with nominal voltage of under 600 volts between conductors
 - D. with a minimum of 2 grounded conductors supplying a branch circuit fed from the enclosure thereafter

65. All pull boxes, junction boxes, and conduit bodies shall be provided with covers compatible with the box or conduit body construction and _____.
- A. be oversized 3/8 inches to allow for expansion
 - B. be used on non-metallic conduit bodies of 2 inches or larger
 - C. be listed for use in wet environments
 - D. suitable for the conditions of use
66. A single-family dwelling has a single-phase 125A sub-panel in the garage with a 125A main breaker protecting it. What size equipment grounding conductor shall be used to feed the sub-panel?
- A. 8 AWG
 - B. 6 AWG
 - C. 4 AWG
 - D. 2 AWG
67. Snap switches rated 20A or less directly connected to aluminum conductors shall be listed and marked _____.
- A. ALM/CU
 - B. For use in wet environments
 - C. CO/ALR
 - D. Aluminum conductors only
68. A single-phase 3-wire 200A service is constructed at a residence with 3/0 service-entrance conductors. What size copper grounding electrode conductor needs to be installed on this service?
- A. 2 AWG
 - B. 4 AWG
 - C. 6 AWG
 - D. 8 AWG
69. _____ equipment utilizes electric energy for electronic, electromechanical, chemical, heating, lighting, or similar purposes.
- A. Utilization
 - B. Cord-and-plug connected
 - C. Heating
 - D. Signaling
70. The largest number of 4 AWG THWN conductors that can be installed in an 1 1/4" Type A Liquidtight Flexible Nonmetallic Conduit (LFNC-A), who's length is no more than 18" shall be:
- A. 6
 - B. 7
 - C. 8

D. 9

71. When concealed knob-and-tube wiring is spliced, _____ or strain splices shall not be used.

- A. constructed
- B. In-line
- C. separated
- D. soldered

72. The continuity of a _____ shall not depend on a connection to a metallic enclosure, raceway, or cable armor.

- A. grounded conductor
- B. ungrounded conductor
- C. equipment grounding conductor
- D. bonding jumper

73. Where grounded conductors of different systems are installed in the same raceway, cable, box, auxiliary gutter, or other type of enclosure, each grounded conductor shall be identified by _____.

- A. temporary means
- B. permanent means
- C. system
- D. distinctive separate colors

74. A 1000A service is being installed on a dwelling with a total calculated load of 1057A. Rather than installing (2) extremely large parallel conductors, it has been decided to run (4) smaller THWN conductors that, when combined, are equivalent to the total circular mil area of the larger conductors, for ease of install. What (4) conductors should be run for this service?

- A. (4) 4/0 kcmil THWN
- B. (4) 250 kcmil THWN
- C. (4) 300 kcmil THWN
- D. (4) 350 kcmil THWN

75. Any equipment used in the dc circuits of a direct-current micro grid shall be listed and labeled for _____.

- A. AC to DC conversion
- B. DC to AC inversion
- C. use with AC circuits
- D. DC use

76. Feeder and branch circuit conductors that are installed on docking facilities shall be provided with ground-fault protection set to open at currents exceeding _____.

- A. 30mA

- B. 10mA
- C. 6mA
- D. 5mA

77. For battery chemistries with _____, the structure that supports the battery shall be resistant to deteriorating action by the electrolyte.

- A. noncorrosive electrolyte
- B. corrosive electrolyte
- C. lead-core
- D. acid-core

78. Where mating dissimilar metals, antioxidant material suitable for the battery connection shall be:

- A. applied under engineer supervision
- B. reapplied every 12 months where stored in corrosive environments
- C. used when recommended by the battery or cell manufacturer
- D. constructed with fire-retardant, moisture-resistant chemicals

79. Type 1 surge protection devices (SPDs) installed at services shall be connected to which of the following?

- A. Grounded service conductor
- B. Equipment grounding terminal in the service equipment
- C. Grounding electrode conductor
- D. All of these

80. Circuits exceeding 120 volts, nominal, between conductors and not exceeding 277 volts, nominal, to ground shall be permitted to supply _____.

- A. luminaires equipped with mogul-base screw shell lampholders
- B. luminaires equipped with medium-base screw shell lampholders
- C. labeled electric-discharge lighting
- D. magnetic low-voltage lighting

81. In dwelling units and guest rooms or guest suites of hotels, motels, and similar occupancies, the voltage shall not exceed _____, nominal, between conductors that supply the terminals of luminaires

- A. 120V
- B. 130V
- C. 240V
- D. 277V

82. For an Energy Storage System (ESS), the disconnecting means for all ungrounded conductors derived from the ESS shall be _____.

- A. guarded
- B. protected from physical damage

- C. readily accessible
- D. accessible

83. Conductors shall be considered outside the building when installed in conduit and under not less than _____ of earth beneath a building or other structure.

- A. 6 inches
- B. 12 inches
- C. 18 inches
- D. 24 inches

84. Up to three sets of 3-wire feeders or _____ sets of 4-wire or 5-wire feeders shall be permitted to utilize a common neutral.

- A. one
- B. two
- C. three
- D. four

85. In no case shall a service point of attachment be less than _____ above finished grade.

- A. 9 feet
- B. 10 feet
- C. 12 feet
- D. 12 ft, 6 in

86. Where used at a point on a circuit, the surge-protective device SPD shall be connected to _____.

- A. each ungrounded conductor
- B. the circuit's grounded conductor
- C. the grounding electrode conductor
- D. an equipment grounding conductor

87. Intermediate Metal Conduit (IMC) shall be permitted to be installed in or under cinder fill where subject to permanent moisture where protected on all sides by a layer of non cinder concrete not less than _____ thick.

- A. 12 inches
- B. 6 inches
- C. 4 inches
- D. 2 inches

88. The working clearance for a park trailer panelboard shall be not less than _____ inches wide and 30 inches deep.

- A. 24
- B. 30

- C. 36
- D. 42

89. Receptacles shall be mounted not less than _____ above the deck surface of the pier and not below the electrical datum plane on a fixed pier.

- A. 12 inches
- B. 18 inches
- C. 24 inches
- D. 30 inches

90. The sum of cross-sectional areas of all contained conductors or cables at any cross section of a nonmetallic wireway shall not exceed _____ of the interior cross-sectional area of the nonmetallic wireway.

- A. 20%
- B. 30%
- C. 40%
- D. 60%

91. For permanently connected appliances rated at not over _____ or 1/8 hp, the branch-circuit overcurrent device shall be permitted to serve as the disconnecting means where the switch is within sight from the appliance.

- A. 150VA
- B. 180VA
- C. 250VA
- D. 300VA

92. Where run across the top of floor joists, or within _____ of the floor or floor joists across the face of rafters or studding, the cable shall be protected by guard strips that are at least as high as the cable.

- A. 3 feet
- B. 5 feet
- C. 6 feet
- D. 7 feet

93. The radius of the curve of the inner edge of any bend in smooth MC cable shall not be less than _____ the external diameter of the metallic sheath for cables less than 3/4" in external diameter.

- A. six times
- B. eight times
- C. ten times
- D. twelve times

94. Power to the utilization equipment shall not be supplied until _____.

- A. the rotary-phase converter has been started
 - B. the rotary-phase converter has be tested
 - C. the installation is inspected by an electrical engineer
 - D. the installation is inspected by an AHJ
95. All non-current-carrying metal parts of equipment and raceways that contain or support service conductors shall be _____.
- A. grounded separately
 - B. bonded together
 - C. bonded separately
 - D. grounded together
96. Overhead spans of open conductors not over 1000V shall have a clearance of not less than _____ over public streets.
- A. 12 feet
 - B. 15 feet
 - C. 18 feet
 - D. 24 1/2 feet
97. Where cord and plug connection is provided to office lighting accessories, it shall comply with all of the following except:
- A. Cords on the load side of a listed Class 2 power source are required to contain an equipment grounding conductor
 - B. The cord length shall be suitable for the intended application but shall not exceed 9 ft in length
 - C. The cord shall not be smaller than 18 AWG
 - D. The cord shall be of the hard usage type
98. Where _____ branch circuits supply devices on the same yoke, a means to simultaneously disconnect the ungrounded supply conductors shall be provided.
- A. two or more
 - B. three or more
 - C. four or more
 - D. none of the above
99. All 15- and 20A, 125- and 250V non locking-type receptacles in corridors of dental offices shall be _____.
- A. installed ground-up
 - B. installed ground-down
 - C. GFCI protected
 - D. listed tamper-resistant receptacles
100. Where dimmers are installed in ungrounded conductors, each dimmer shall have overcurrent protection not greater than _____ of the dimmer rating and shall be disconnected

from all ungrounded conductors when the master or individual switch or circuit breaker supplying such dimmer is in the open position.

- A. 110%
- B. 115%
- C. 120%
- D. 125%