2020 Residential Code Practice Exam - 100 Question

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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. AFCI circuits
    C. GFCI circuits
    D. lighting

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. installed
    B. labeled
    C. registered
    D. designed

3. The demand load for (5) dryers in a single family dwelling unit, rated at 6,000 VA each, is _____.

    A. 22,500VA
    B. 24,000VA
    C. 25,500VA
    D. 30,000VA

4. The total A/C and heating load for a single-family dwelling unit with a 240-V, 18,000 VA heating load and a 240-V 12,000 VA A/C load is _____.

    A. 12,600 VA
    B. 18,000 VA
    C. 21,000 VA
    D. 30,000 VA

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. less than
C. at least equal to
D. more than

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 1900 box
C. a joint box
D. a drop 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 more than 3 feet not
D. not less than 4 feet

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. isolated terminal bar
D. ground ring

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. Connections using threaded couplings or listed threaded hubs on enclosures if made up wrench tight
C. Threadless couplings and connectors if made up tight for metal raceways and metal-clad cables
D. Other listed devices, such as bonding-type lock nuts, bushings, or bushings with bonding jumpers
E. 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. should
    C. shall not
    D. may

13. What's the ampacity of 4 current carrying #8 THHN conductors installed in an ambient temperature of 90°F?

    A. 22.32A
    B. 42.25A
    C. 48.75A
    D. 65.25A

14. Snap switches, dimmers, control switches, and metal faceplates shall be connected to an equipment grounding conductor by _____.

    A. connected to the intersystem bonding termination
    B. mounting 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 that is connected to an equipment grounding termination of the snap switch
    D. termination of 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. TRUE
    B. FALSE

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. supplying multiple-occupancy buildings where there is no space available for supply equipment accessible to all occupants
    B. fed from a fire pump disconnecting means
    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. be marked on the motor-compressor nameplate
    B. have conductors sized no less than 125% of it's locked-rotor current
    C. have conductors sized no less than 100% of it's locked-rotor current
    D. be used to calculate its disconnecting means ampere rating.

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. embedded in plaster finish or brick or other masonry except in wet locations
    C. installed where subject to physical damage
    D. 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

23. Double-throw knife switches shall be permitted to be mounted so that the throw is _____

    A. vertical
    B. horizontal
    C. lockable
    D. either vertical or horizontal

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 be capable of being locked in the open position.

    A. is accessible
    B. is remote
    C. is within sight
    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 ft^2 in the set-up mode is considered a(n):

    A. Park Trailer
    B. Recreational Vehicle
    C. Mobile Home
    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. where the voltage is 300 volts or more between conductors
    C. in hoistways
    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. grouped together
    B. spaced evenly
    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. and bushes shall be permitted to be
    C. shall not
    D. shall be permitted to

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

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. in dry locations
    C. as power poles
    D. where concealed

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. grounded conductor
    C. equipment grounding 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. all ungrounded conductors open simultaneously
    D. a separately derived system remains isolated

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. two or less feeders or branch circuits
    B. multiple feeders or branch circuits
    C. only one feeder or branch circuit
    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 within 6 ft of a sink 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. 18
    B. 21
    C. 30
    D. 32

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. clothes dryers
    B. refrigerators
    C. dishwashers
    D. washing machines

44. Nonmetallic-sheathed cable shall be supported and secured by staples, cable ties listed and identified for securement and support, or 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. 12
    B. 18
    C. 24
    D. 30

45. All 15- and 20A, 125- and 250V non-locking type receptacles in dwelling units shall be listed_____receptacles.

    A. isolated
    B. bonded
    C. tamper-resistant
    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. Type MC cable
C. parallel
D. perpendicular lines to the structure

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. attics
C. dining rooms
D. Bathrooms

49. In dwellings, a receptacle outlet shall be installed so that no point along the wall line is more than _____ inches measured horizontally from a receptacle outlet in that space.

A. 12
B. 18
C. 24
D. 48

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

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

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. ¾ inch
B. ½ inch

C. 1 inch
D. 1 ¼ 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.

A. Service Lateral
B. Overhead Service Conductors
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 125% above
D. at least equal to

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. panelboard
    B. cutout box
    C. switchgear
    D. cabinet

60. Where caution, warning, or danger signs or labels are required, the labels shall be _____.

    A. cutout box
    B. panelboard
    C. switchgear
    D. cabinet

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 40-ampere 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. 950
    B. 1200
    C. 1500
    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. With no more than 6 operations of the hand
    B. So long as each multi-wire branch circuit is separately identified
    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. suitable for the conditions of use
    C. be listed for use in wet environments
    D. be used on non-metallic conduit bodies of 2 inches or larger

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. 2 AWG
    B. 4 AWG
    C. 6 AWG
    D. 8 AWG

67. Snap switches directly connected to aluminum conductors and rated 20 amperes or less shall be marked _____.

    A. ALM/CU
    B. as use with aluminum conductors only
    C. CO/ALR
    D. for use in wet environments

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. Cord-and-plug connected
    B. Heating
    C. Signaling
    D. Utilization

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

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

A. ungrounded conductor
B. equipment grounding conductor
C. grounded 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. distinctive separate colors
D. system

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 dc microgrid 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. Shore power for boats shall be provided by single receptacles rated not less than _____.

A. 15 A
B. 20 A
C. 30 A
D. 40 A

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

A. corrosive electrolyte
B. noncorrosive 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. used when recommended by the battery or cell manufacturer
C. reapplied every 12 months where stored in corrosive environments
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. Grounding electrode conductor
C. Equipment grounding terminal in the service equipment
D. All of these

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

A. luminaires equipped with medium-base screw shell lampholders
B. magnetic low-voltage lighting
C. luminaires equipped with mogul-base screw shell lampholders
D. labeled electric-discharge 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. accessible
D. readily 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. 12 ft, 6 in
B. 12 feet
C. 10 feet
D. 9 feet

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. an equipment grounding conductor
D. the grounding electrode 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. 2 inches
B. 4 inches
C. 6 inches
D. 12 inches

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

A. 42

B. 36
C. 30
D. 24

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 ½ feet

97. Where cord and plug connection is provided to office lighting accessories, it shall comply with all of the following except:

A. The cord length shall be suitable for the intended application but shall not exceed 9 ft in length
B. Cords on the load side of a listed Class 2 power source are required to contain an equipment grounding conductor
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%