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**05 changes-5      5 Hours of Credit**

**Article 320 Armored Cable: Type AC**

1. Type AC cable must be supported and secured at intervals not exceeding 4 1/2 ft and the cable must be secured within \_\_\_\_\_ of every outlet box, cabinet, conduit body, or other armored cable termination.

- (a) 4 in.
- (b) 8 in.
- (c) 9 in.
- (d) 12 in.

**Article 330 Metal-Clad Cable: Type MC**

2. Type MC cable must be supported and secured at intervals not exceeding \_\_\_\_\_.

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

**Article 334 Nonmetallic-Sheathed Cable: Types NM, NMC and NMS**

3. NM cable on a wall of an unfinished basement is permitted to be installed in a listed raceway. A \_\_\_\_\_ must be installed at the point where the cable enters the raceway. Metal conduit and tubing and metal outlet boxes must be grounded.

- (a) nonmetallic bushing or adapter
- (b) sealing fitting
- (c) bonding bushing
- (d) junction box

4. Where more than two NM cables containing two or more current-carrying conductors are bundled together and pass through wood framing that is to be fire- or draft-stopped using thermal insulation or sealing foam, the allowable ampacity of each conductor is \_\_\_\_\_.

- (a) no more than 20A
- (b) adjusted in accordance with 310.15(B)(2)(a)
- (c) limited to 30A
- (d) calculated by an engineer

**Article 348 Flexible Metal Conduit: Type FMC**

5. Unsupported lengths of flexible metal conduit are allowed at terminals where flexibility is required but must not exceed \_\_\_\_\_.

- (a) 3 ft for trade sizes ½ in. through 1¼ in.
- (b) 4 ft for trade sizes 1½ in. through 2 in.
- (c) 5 ft for trade size 2½ in. and larger
- (d) all of these

**Article 350 Liquidtight Flexible Metal Conduit: Type LFMC**

6. Liquidtight flexible metal conduit is not required to be fastened when used for tap conductors to luminaires up to \_\_\_\_\_ in length.

- (a) 4½ ft
- (b) 18 in.
- (c) 6 ft
- (d) no limit on length

**Article 376 Metal Wireways**

7. Where a wireway is used as a pull box for insulated conductors 4 AWG or larger, the distance between raceway and cable entries enclosing the same conductor must not be less than that required in 314.28(A)(1) for straight pulls and 314.28(A)(2) for angle pulls.

- (a) True
- (b) False

8. In addition to the wiring space requirement in 356.56(A), the power distribution block must be installed in a metal wireway not smaller than that specified \_\_\_\_\_.

- (a) by the wireway manufacturer
- (b) by the manufacturer of the power distribution block
- (c) both a and b
- (d) either a or b

**Article 386 Surface Metal Raceways**

9. Surface metal raceways must be secured and supported at intervals \_\_\_\_\_.

- (a) in accordance with the manufacturer's installation instructions
- (b) appropriate for the building design
- (c) not exceeding 8 ft
- (d) not exceeding 4 ft

**Article 388 Surface Nonmetallic Raceways**

10. Where combination surface nonmetallic raceways are used for both signaling conductors and for lighting and power circuits, the different systems must be run in separate compartments identified by \_\_\_\_\_ of the interior finish.

- (a) stamping
- (b) imprinting
- (c) color-coding
- (d) any of these

**Article 400 Flexible Cords and Cables**

11. In industrial establishments where conditions of maintenance and supervision ensure that only qualified persons service the installation, flexible cords and cables are permitted to be installed in aboveground raceways that are no longer than \_\_\_\_\_, to protect the flexible cord or cable from physical damage.

- (a) 25 ft
- (b) 50 ft
- (c) 100 ft
- (d) no limit

**Article 406 Receptacles, Cord Connectors, and Attachment Plugs (Caps)**

12. Which of the following statements are true for covers in a wet location for 15 and 20A, 125 and 250V receptacles?

- (1) The receptacle cover for a product, which will not be attended while in use, must be listed as weatherproof while the attachment plug is inserted or removed.
  - (2) Portable loads such as appliances and power tools must make use of a receptacle cover that is listed as weatherproof while the attachment plug is removed.
- (a) 1 only
  - (b) 2 only
  - (c) 1 and 2
  - (d) none of these

**Article 408 Switchboards and Panelboards**

13. Unused openings for circuit breakers and switches in switchboards and panelboards must be closed using \_\_\_\_\_ or other approved means that provide protection substantially equivalent to the wall of the enclosure.

- (a) duct seal and tape
- (b) identified closures
- (c) exothermic welding
- (d) sheet metal

**Article 410 Luminaires, Lampholders, and Lamps**

14. Luminaires located in bathtub and shower zone must be listed for damp locations, or listed for wet locations where \_\_\_\_\_.

- (a) below 7 ft height
- (b) below 6 ft 7 in. height
- (c) subject to shower spray
- (d) not GFCI protected

15. Thermal insulation must not be installed above a recessed luminaire or within \_\_\_\_\_ of the recessed luminaire's enclosure, wiring compartment, or ballast unless it is a Type IC luminaire.

- (a) 6 in.
- (b) 12 in.
- (c) 3 in.

(d) ½ in.

16. In indoor locations, other than dwellings and associated accessory structures, fluorescent luminaires that utilize double-ended lamps and contain ballast(s) that can be serviced or re-ballasted in place must have a disconnecting means, to disconnect simultaneously all conductors of the ballast, including the \_\_\_\_\_ conductor if any. The disconnecting means must be accessible to qualified persons. This requirement will become effective January 1, 2008

- (a) high leg
- (b) grounded neutral
- (c) equipment ground
- (d) b and c

**Article 411 Lighting Systems Operating at 30 Volts or Less**

17. Lighting systems operating at 30V or less are allowed to be concealed or extended through a building wall using \_\_\_\_\_.

- (a) any of the wiring methods specified in Chapter 3
- (b) wiring supplied by a listed class 2 power source installed in accordance with 725.52
- (c) both a and b
- (d) metal raceways only

**Article 422 Appliances**

18. Cord-and-plug-connected vending machines manufactured or remanufactured on or after January 1, 2005 must include a ground-fault circuit interrupter as an integral part of the attachment plug or in the power-supply cord within 12 in. of the attachment plug. Cord-and-plug-connected vending machines not incorporating integral GFCI protection must \_\_\_\_\_.

- (a) be re-manufactured
- (b) be disabled
- (c) be connected to a GFCI-protected outlet
- (d) be connected to an AFCI-protected circuit

**Article 445 Generators**

19. Unless two restrictive conditions exist, a generator must be equipped with one or more disconnecting means to disconnect the generator, its protective devices, and all control apparatus entirely from the circuits supplied by the generator.

- (a) True
- (b) False

**Chapter 5 Special Occupancies**

**Article 501 Class I Locations**

20. **Article 501** covers the requirements for electrical and electronic equipment and wiring for all voltages in Class I, Divisions 1 and 2 locations where fire or explosion hazards may exist due to \_\_\_\_\_.

- (a) flammable gases
- (b) vapors
- (c) flammable liquids

(d) a, b, or c

**Article 511 Commercial Garages, Repair, and Storage**

21. Where flammable liquids having a flash point below 100°F, such as gasoline or gaseous fuels such as natural gas, or LPG will not be transferred, such location is considered to be \_\_\_\_\_. \_

- (a) Class I, Division 1
- (b) Class I, Division 2
- (c) Class II, Division 1
- (d) unclassified

22. For each floor area inside a commercial garage where Class I liquids are transferred, the entire area up to a level of \_\_\_\_\_ above the floor is considered to be a Class I, Division 2 location.

- (a) 6 in.
- (b) 12 in.
- (c) 18 in.
- (d) 24 in.

**Article 513 Aircraft Hangars**

23. All 125V, 1Ø, 15 and 20A receptacles installed in aircraft hangars in areas where \_\_\_\_\_ 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

**Article 514 Motor Fuel Dispensing Facilities**

24. Underground wiring to gasoline dispensers must be installed in \_\_\_\_\_.

- (a) threaded rigid metal conduit
- (b) threaded intermediate metal conduit
- (c) rigid nonmetallic conduit when buried under not less than 2 ft of cover
- (d) any of these

**Article 517 Health Care Facilities**

25. The wiring for the emergency system in hospitals may be installed in flexible metal raceways and listed metal sheathed cable assemblies for specific situations, including \_\_\_\_\_ .

- (a) enclosing conductors smaller than 12 AWG only
- (b) within 50 feet of a disconnect for the branch circuit
- (c) where necessary for flexible connection to equipment
- (d) only where installed so the wiring method is exposed and accessible

**Article 525 Carnivals, Circuses, Fairs, and Similar Events**

26. GFCI protection is not permitted at carnivals, circuses and fairs for \_\_\_\_\_.

- (a) sign lighting
- (b) equipment that is not readily accessible to the general public
- (c) egress lighting
- (d) circuits servicing spotlights

**Article 547 Agricultural Buildings**

27. An equipotential plane is not required in dirt confinement areas containing metallic equipment that is accessible to animals and may become energized. GFCI protection must be provided for all 15 and 20A general-purpose receptacles located in the dirt confinement areas.

- (a) True
- (b) False

**Article 555 Marinas and Boatyards**

28. Electrical wiring and equipment located at or serving motor fuel dispensing equipment in marinas or boatyards must be in accordance with **Article 514**, in addition to the requirements of **Article 555**. All electrical wiring for \_\_\_\_\_ must be installed on the side of the wharf, pier, or dock opposite from the liquid piping system.

- (a) power
- (b) lighting
- (c) dispensing equipment
- (d) a and b

**Article 590 Temporary Installations**

29. Type NM and NMC cable is permitted to be used for temporary installations in any dwelling, building or structure without height limitation or limitation by building construction type and without concealment when installed as \_\_\_\_\_.

- (a) branch circuits
- (b) feeders
- (c) a or b
- (d) none of these

**Chapter 6 Special Equipment**

**Article 604 Manufactured Wiring Systems**

30. Manufactured wiring systems constructed with Type MC cable must be supported and secured at intervals not exceeding \_\_\_\_\_.

- (a) 3 ft
- (b) 4 1/2 ft
- (c) 6 ft
- (d) none of these

**Article 625 Electric Vehicle Charging System**

31. According to **Article 625**, automotive-type vehicles for highway use include \_\_\_\_\_.

- (a) passenger automobiles

- (b) trucks
- (c) neighborhood electric vehicles
- (d) all of these

**Article 640** Audio Signal Processing, Amplification, and Reproduction Equipment

32. All abandoned audio distribution cables must be removed.

- (a) True
- (b) False

**Article 680** Swimming Pools, Fountains, and Similar Installations

33. Overhead conductors over a swimming pool must meet the clearance requirements of **Article 680**. Where a minimum clearance from the water level is given, it is taken from the \_\_\_\_\_ water level of the specified body of water.

- (a) average
- (b) maximum
- (c) minimum
- (d) nominal

34. All outdoor 15 and 20A, 1Ø, 125V through 250V receptacles for pool, spa and hot tub pump motors must be \_\_\_\_\_.

- (a) AFCI protected
- (b) GFCI protected
- (c) approved
- (d) listed

35. Receptacles must not be less than \_\_\_\_\_ from the inside walls of a storable pool.

- (a) 8 ft
- (b) 10 ft
- (c) 15 ft
- (d) 20 ft

**Article 695** Fire Pumps

36. For fire pump motors, the \_\_\_\_\_ must be selected to carry indefinitely the sum of the locked-rotor current of the fire pump motor(s) and pressure maintenance pump motor(s) and the full-load current of any associated fire pump accessory equipment connected to this power supply.

- (a) overcurrent protective device(s)
- (b) pump motor conductors
- (c) a and b
- (d) none of these

Chapter 7 Special Conditions

**Article 700** Emergency Systems

37. The alternate power source (generator, UPS, etc.) of an emergency system can supply emergency, legally required standby, and optional standby system loads where automatic selective load pickup and load shedding is provided as needed to ensure adequate power for all of these purposes equally.

- (a) True
- (b) False

**Article 701 Legally Required Standby Systems**

38. The alternate power source (generator, UPS, etc.) is permitted to supply legally required standby and optional standby system loads where automatic selective load pickup and load shedding is provided as needed to ensure adequate power to the legally required standby systems.

- (a) True
- (b) False

**Article 702 Optional Standby Systems**

39. For optional standby systems, the temporary connection of a portable generator without transfer equipment is permitted, where written safety procedures are in place and conditions of maintenance and supervision ensure that only qualified persons will service the installation, and where the normal supply is physically isolated by \_\_\_\_\_.

- (a) a lockable disconnecting means
- (b) the disconnection of the normal supply conductors
- (c) an extended power outage
- (d) a or b

**Article 725 Class 1, Class 2, and Class 3 Remote-Control, Signaling and Power-Limited Circuits**

40. All accessible portions of abandoned Class 2, Class 3, and PLTC cables must be removed.

- (a) True
- (b) False

41. Audio system circuits described in 640.9(C), and using Class 2 or Class 3 wiring methods, are not permitted to be installed in the same cable or raceway with \_\_\_\_\_.

- (a) other audio system circuits
- (b) Class 2 conductors or cables
- (c) Class 3 conductors or cables.
- (d) b or c

**Article 760 Fire Alarm Systems**

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

- (a) True
- (b) False

43. Fire alarm equipment supplying PLFA circuits must be durably marked where plainly visible to indicate each circuit that is \_\_\_\_\_.

- (a) supplied by a power-limited fire alarm circuit
- (b) a power-limited fire alarm circuit
- (c) a fire alarm circuit



(d) none of these

**Article 770 Optical Fiber Cables and Raceways**

44. Optical fiber cables installed \_\_\_\_\_ on the surface of ceilings and sidewalls must be supported by the building structure in such a manner that the cable will not be damaged by normal building use.

- (a) exposed
- (b) concealed
- (c) hidden
- (d) a and b

45. Optical fiber cables are not required to be listed and marked where the length of the cable within the building, measured from its point of entrance, does not exceed \_\_\_\_\_ and the cable enters the building from the outside and is terminated in an enclosure.

- (a) 25 ft
- (b) 30 ft
- (c) 50 ft
- (d) 100 ft

**Chapter 8 Communications Systems**

**Article 800 Communications Circuits**

46. Communications cables installed \_\_\_\_\_ on the surface of ceilings and sidewalls must be supported by the building structure in such a manner that the cable will not be damaged by normal building use.

- (a) exposed
- (b) concealed
- (c) hidden
- (d) a and b

47. Limiting the length of the primary protector grounding conductors for communication circuits on one- and two-family dwellings reduces differences in potential between the building's \_\_\_\_\_ and communications systems during lightning events.

- (a) power
- (b) fire alarm
- (c) lighting
- (d) lightning protection

**Article 820 Community Antenna Television and Radio Distribution Systems**

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

- (a) True
- (b) False

49. Exposed CATV cables must be secured by straps, staples, hangers, or similar fittings designed and installed so as not to damage the cable.

- (a) True
- (b) False

50. Community antenna television and radio (CATV) system coaxial cables are not required to be listed and marked where the length of the cable within the building, measured from its point of entrance, does not exceed\_\_\_\_\_ and the cable enters the building from the outside and is terminated at a grounding block.

- (a) 25 ft
- (b) 30 ft
- (c) 50 ft
- (d) 100 ft

**2005 NEC Code Part 5 (05 changes 5) -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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