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Quiz 1

1. Being reached quickly for operation, renewal, or inspection without having to use tools, climb over, remove obstacles, or resort to portable ladders is known as _____.
 - Instantly reachable
 - Readily accessible
 - Accessible
 - Reachable
2. A battery subsystem consisting of _____ or more storage batteries and chargers shall include inverters, converters, and other electrical equipment.
 - one
 - two
 - three
 - four
3. A cable routing assembly is meant for a single or multiple channels as well as associated fittings, forming a structural system that is used to _____ communication, fire alarm, and optical fiber cables.
 - A. support
 - B. protect
 - C. route
 - D. Both A and C
4. Communications equipment performs telecommunications operations for transmissions of _____.
 - data
 - video
 - audio
 - all of the answers provided

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5. Communications equipment uses conductors dedicated solely to the operation of the equipment.
 - True
 - False
6. A communications raceway is an enclosed nonmetallic material meant for holding communication cables in _____ applications.
 - plenum
 - riser
 - general-purpose
 - all of the answers provided
7. A unit of an electrical system, other than a conductor, that carries or controls energy as its principal function is a/n _____.
 - device
 - enclosure
 - fitting
 - raceway
8. The conductive path that provides a ground-fault current and connects normally noncurrent equipment together is known as an equipment grounding conductor or an EGC.
 - True
 - False
9. A combination consisting of a compressor and a motor, both of which are enclosed in the same housing with no external shaft or seals that contain the motor and operates in the refrigerant is known as a _____.
 - refrigeration cooling system
 - hermetic refrigerant motor-compressor
 - sealable system
 - separately derived system
10. A device that provides a means for connecting intersystem bonding conductors for communications systems to the grounding electrode system is known as an _____.
 - Intersystem terminal
 - Intersystem conductor
 - Intersystem
 - Intersystem bonding termination
11. Capable of being repositioned and assembled to support and power luminaires is known as a _____.
 - lighting track
 - ground fault path
 - communication raceway
 - none of the answers provided
12. The length of a lighting track can be altered by the _____ of sections of track.
 - addition
 - subtraction
 - both of the answers provided
 - neither of the answers provided
13. _____ locations are protected from weather and not subject to saturation with water or other liquids.
 - Damp
 - Wet
 - Dry
 - Moist
14. Examples of damp locations are _____.
 - canopies
 - marquees
 - roofed open porches
 - none of the answers provided
 - all of the answers provided
15. "Premises wiring" is interior and exterior wiring that includes _____ wired together with all their associated hardware, fittings, and wiring devices, both permanently and temporarily installed.
 - power
 - lighting
 - controls
 - signal circuits
 - all of the answers provided
16. Power sources include, but are limited to, interconnected or stand-alone batteries, solar photovoltaic systems, other distributed generation systems, or generators.
 - True
 - False

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17. Enclosed channels of _____ materials designed expressly for holding wires, cables, or busbars, with additional functions as permitted in this Code, are known as raceways.
- metallic
 - nonmetallic
 - either of the questions provided
 - neither of the questions provided
18. A raceway is identified within specific article definitions.
- True
 - False

Quiz 2

1. A complete subassembly of parts and devices for field conversion of utilization equipment is known as a _____.
- raceway
 - grounding conductor
 - retrofit kit
 - fitting
 - device
2. Sealable equipment enclosed in a _____ is provided with a means of sealing or locking so that live parts cannot be made accessible without opening the enclosure.
- case
 - cabinet
 - both of the answers provided
 - neither of the answers provided
3. Can sealable equipment be operable without opening the enclosure?
- Yes
 - No
 - Equipment may or may not be operable.
4. An electrical source, other than a service, having no direct connection(s) to circuit conductors of any other electrical source, other than those established by grounding and bonding connections, is known as a _____.
- separately derived system
 - non-separately derived system
 - single-derived system
 - multi-derived system

5. An arc-flash warning shall be located so that it can be clearly visible to qualified persons before _____.
- examination
 - adjustment
 - servicing
 - maintenance
 - all of the answers provided
6. Electrical equipment, such as switchboards, switchgears, panelboards, control panels, meter sockets, and control centers in other than dwelling units must be _____ to warn qualified persons of associated dangers with arc flashes.
- field marked
 - factory marked
 - both of the answers provided
 - neither of the answers provided
7. Where caution, warning, or danger signs or labels are required by code, the markings shall adequately warn of hazards, using effective words and/or colors and/or symbols.
- True
 - False
8. Where caution, warning, or danger signs or labels are required by code, the labels shall be permanently affixed to the _____.
- A. equipment method
 - B. vehicle method
 - C. wiring method
 - D. only A and C
 - E. none of the answers provided
9. Field-applied hazard markings _____ permitted to be hand written.
- shall be
 - shall not be
 - not listed in code
10. Where caution, warning, or danger signs or labels are required by code, the labels shall be of _____ to withstand the weather.
- paper
 - laminated plastic
 - sufficient durability
 - engraved aluminum

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11. Service equipment, other than in dwelling units, shall have a field marking _____.
 - of the maximum available fault current
 - of the date the fault-current calculation was made
 - that is sufficiently durable to weather
 - all of the answers provided
 12. The fault-current calculation that was performed will need to be related to the required short-circuit current ratings of equipment.
 - True
 - False
 13. Where a disconnecting means is required to be lockable in the open position, provisions for locking must remain in place whether or not the lock is _____.
 - fastened
 - installed
 - removed
 - replaced
 14. _____ connection locking provisions shall not be required to remain in place without the lock installed.
 - Device
 - Raceway
 - Protected
 - Cord-and-plug
 15. Where equipment is rated 800 A or more and contains overcurrent devices, switch devices, or control devices, and where the entrance to the working space has a personnel door less than 25 feet from the working space, the door shall _____.
 - open in the opposite direction of egress and not be equipped with panic hardware
 - open in the direction of egress and not be equipped with panic hardware
 - open in the opposite direction of egress and be equipped with panic hardware
 - open in the direction of egress and be equipped with panic hardware
 16. Outdoor electrical equipment shall be _____.
 - installed in suitable enclosures
 - protected from accidental contact by personnel
 - protected from accidental contact by vehicular traffic
 - protected from accidental contact by spillage or leakage from piping systems
 - any of the answers provided
 17. Dedicated equipment space is the space equal to the width and depth of the equipment.
 - True
 - False
 18. Dedicated equipment space extending from grade to a height of _____ above the equipment, shall be dedicated to the electrical installation.
 - 1 foot
 - 2 feet
 - 4 feet
 - 6 feet
 - 10 feet
- Quiz 3 – Chapter 2**
1. Multiple circuits shall be identified or grouped to correspond with the ungrounded circuit conductors by _____ in at least one location within the enclosure.
 - wire markers
 - cable ties
 - similar means
 - all of the answers provided
 2. The requirement for grouping or identifying shall not apply if the branch-circuit or feeder conductors enter from a _____ unique to the circuit, which makes grouping identification obvious.
 - A. cable
 - B. raceway
 - C. device
 - D. unit
 - E. only A and B

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3. The requirement for grouping or identifying shall not apply where branch-circuit conductors pass through a box or conduit body _____.
 - without a loop
 - without a splice
 - without a termination
 - all of the answers provided
4. A multiwire branch-circuit, consisting of an ungrounded and/or grounded circuit conductor, will be grouped by cable ties or other means, in at least _____ within the panelboard or other point of origin.
 - one location
 - two locations
 - three locations
 - four locations
5. The requirement for grouping shall not apply if the conductors are identified at their terminations with _____ corresponding to the appropriate circuit number.
 - colored wire markers
 - numbered wire markers
 - cable ties
 - zip ties
6. Receptacles installed within _____ of the outside edge of the sink must be GFCI protected.
 - 2 feet
 - 4 feet
 - 6 feet
 - 8 feet
7. Receptacles installed within _____ of the outside edge of the bathtub or shower stall must be GFCI protected.
 - 2 feet
 - 4 feet
 - 6 feet
 - 8 feet
8. Receptacles installed in laundry areas must be GFCI protected.
 - True
 - False
9. Receptacles installed within _____ of the outside edge of a rooftop unit must be GFCI protected.
 - True – 6 feet
 - False – 10 feet
 - False – receptacles do not have to be installed within the outside edge of a rooftop unit
 - False – receptacles on rooftops shall not be required to be readily accessible other than from the rooftop
10. Receptacles installed in _____ must be GFCI protected.
 - garages
 - service bays
 - similar areas
 - vehicle exhibitions
 - all of the answers except vehicle exhibitions
11. GFCI protection shall be provided for outlets that supply _____ installed in dwelling unit locations.
 - dishwashers
 - microwaves
 - ovens
 - refrigerators
12. All 15A and 20A, 120V branch circuits supplying dormitory outlets in _____ require AFCI protection.
 - closets
 - hallways
 - living rooms
 - bedrooms
 - all of the answers provided and more
13. An individual branch-circuit shall be permitted to supply any load for which it is rated, but in no case shall _____.
 - the load increase the branch-circuit ampere rating
 - the load exceed the branch-circuit ampere rating
 - the load decrease the branch-circuit ampere rating
 - none of the answers provided

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14. In no case shall the dwelling unit receptacle outlets be located more than _____ below the top of the basin.
 - 2 inches
 - 6 inches
 - 1 foot
 - 2 feet
 15. A feeder that provides constant and/or non-constant loads and the minimum _____ shall have an allowable ampacity of not less than the non-constant load.
 - feeder conductor size
 - grounding-conductor size
 - branch-circuit conductor size
 - receptacle conductor size
 16. The minimum feeder conductor size shall have an allowable ampacity of not less than the maximum load to be served after the application of any _____ factors.
 - adjustment
 - correction
 - both of the answers provided
 - neither of the answers provided
 17. In no case shall the point of attachment be less than _____ above finished grade.
 - 2 feet
 - 4 feet
 - 6 feet
 - 8 feet
 - 10 feet
 18. Only power _____ conductors shall be permitted to be attached to a service mast.
 - service-drop
 - overhead service
 - both of the answers provided
 - neither of the answers provided
 19. A grounding electrode conductor shall be connected between the grounding electrode system and the _____.
 - grounding conductor in each service equipment disconnecting means enclosure
 - equipment grounding conductor installed with the feeder
 - supply-side bonding jumper
 - any of the answers listed
 20. Can a metal structural frame of a building be used as a conductor to interconnect electrodes that are part of the grounding electrode system?
 - Yes
 - No
 21. A concrete-encased electrode of _____ extending from its location within the concrete to an accessible location above the concrete shall be allowed.
 - conductor type
 - reinforcing rod
 - reinforcing bar
 - any of the answers provided
- ### Quiz 4 – Chapter 3
1. Chapter 3 of the NEC covers _____.
 - general requirements and materials for wiring methods and installations
 - general requirements for signaling and communication systems
 - special conditions for wiring
 - grounding and bonding
 - all of the answers provided
 2. _____ installed under a building shall be in a raceway.
 - A. Cables
 - B. Conductors
 - C. Water pipes
 - D. Vents
 - E. Only A and B
 3. When running conductors and cables in an environmental air plenum the nonmetallic cable ties and nonmetallic cable accessories used to secure and support these cables must be _____.
 - listed as having low smoke properties
 - listed as having low heat release properties
 - listed as having both low smoke and low heat release properties
 - black in color
 - locked into position
 4. An approved manner to close an opening in a cabinet or a cutout box would be to _____.
 - use an approved cap
 - use gray duct tape
 - use black electrical tape
 - use silver duct tape
 - use plumber's putty

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5. A warning label must be applied to an enclosure that has a feed-through conductor. It must identify the closest disconnecting means for that feed-through conductor.
 - True
 - False
6. A drainage opening not larger than _____ inch is permitted to be installed in conduit boxes that are used in damp or wet locations.
 - 1/4 inch
 - 5/16 inch
 - 3/8 inch
 - 7/16 inch
 - 1/2 inch
7. Openings through which conductors enter boxes shall be closed in an approved manner.
 - True
 - False
8. Boxes can be supported from _____.
 - a wood beam
 - a metal beam
 - a uni-strut
 - any structural member
9. Screws used for attaching covers or other equipment to a box must be _____ that _____ the thread gage or the screws that were provided by the manufacturer.
 - machine screws – match
 - wood screws – match
 - bolts – are self-taping and will work with
 - sheet metal – are self-taping and will work with
10. Boxes that support luminaires or lamp holder outlets on a vertical surface must be _____.
 - identified
 - marked
 - both identified and marked
 - none of the answers provided
11. The maximum weight of a box mounted on a vertical surface to support a lampholder outlet is _____.
 - 30 pounds
 - 40 pounds
 - 50 pounds
 - 65 pounds
 - no limit
12. A ceiling outlet, used only for supporting a luminaire or lamp holder, must be able to support at least _____.
 - 30 pounds
 - 40 pounds
 - 50 pounds
 - 65 pounds
 - no limit
13. A ceiling outlet, used only for supporting a luminaire or lamp holder above the minimum required weight must list on the _____ box the maximum weight that it shall be permitted to support.
 - interior of the
 - exterior of the
 - cover plate for the
 - manufacture's literature in the
14. A guard strip must be installed to protect armored cables (AC) in an accessible attic. The strip must be _____.
 - at least as high as the cables
 - greater in height than the cables
 - greater than 3/4 inches in height than the cables
 - greater than 1-1/2 inches in height than the cables
15. Type MC Cable that has a corrosion-resistant jacket over its metallic covering can be used in wet locations when which of the following conditions is/are met?
 - When the metallic covering is impervious to moisture.
 - When a jacket resistant to moisture is provided under the metal covering.
 - When the insulated conductors under the metallic covering are listed for use in wet locations.
 - All 3 conditions are acceptable for use of Type MC in a wet location.

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16. In vertical installations, listed Type MC Cables with ungrounded conductors 250 kcmil and larger, shall be permitted to be secured at intervals not exceeding _____.
- 3 feet
 - 5 feet
 - 8 feet
 - 10 feet
 - 12 feet
17. Type MC Cable of the interlocked armor type, in lengths not exceeding _____ from the last point where it is securely fastened, is used to connect equipment where flexibility is necessary to minimize the transmission of vibration from equipment, or to provide flexibility for equipment that requires movement after installation.
- 3
 - 5
 - 8
 - 10
 - 12
18. Type RMC – Rigid Metal Conduit shall be secured within _____ of each outlet box or other termination.
- 3 feet
 - 5 feet
 - 8 feet
 - 10 feet
 - 12 feet
19. Type RMC – Rigid Metal Conduit shall be increased to _____ where structural members do not readily permit fastening at the aforementioned smaller interval.
- 3 feet
 - 5 feet
 - 8 feet
 - 10 feet
 - 12 feet
20. Type RMC – Rigid Metal Conduit shall not be required to be securely fastened within _____ of the service head for above-the-roof termination of a mast.
- 3 feet
 - 5 feet
 - 8 feet
 - 10 feet
 - 12 feet
21. Type RMC – Rigid Metal Conduit shall be made from any one of the following materials except _____.
- steel with or without protective coatings
 - red brass
 - aluminum
 - stainless steel
 - PVC / ABS
22. Type FMC – Flexible Metal Conduit may be supported by listed flexible metal conduit fittings.
- True
 - False
23. Rigid Polyvinyl Chloride Conduit (PVC) has been re-defined using the term _____ instead of the term conduit to impart a more inclusive term for electricians.
- raceway
 - round plastic pipe
 - white pipe
24. Type LFNC – Liquidtight Flexible Nonmetallic Conduit can now be supported using listed LFNC fittings.
- True
 - False
25. Number of Conductors and Ampacity. The adjustment factors in 310.15(B)(3)(a) shall be applied only where the number of current-carrying conductors, including neutral conductors classified as current-carrying under the provisions of 310.15(B)(5), exceeds _____ at any cross section of the wireway.
- 10
 - 20
 - 30
 - 40
 - 50
26. A power distribution block may be installed on the line side of the service equipment if _____.
- it is listed for the purpose
 - it is black in color
 - it is non-metallic
 - all of the listed answers
 - none of the listed answers

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27. In a metal wireway, the power distribution block will need to be installed in such a manner that the terminals are _____.

- visible
- accessible
- properly spaced
- unobstructed
- color matched

28. Surface metal raceways shall be _____ in accordance with the manufacturer's installation instructions.

- supported
- painted
- inspected
- color coordinated

Quiz 5 – Chapter 4

1. Conductors that enter the box and is enclosing the switch through a raceway, shall provide a _____ raceway for all contained and grounded conductors.

- small enough
- large enough
- wide enough
- long enough

2. A neutral conductor isn't required where a switch can be accessed to add or replace any cables or wires without _____ past completed work.

- damaging
- removing
- both of the answers provided
- neither of the answers provided

3. A neutral conductor isn't required at a switch where the switch controls a _____.

- receptacle
- panelbox
- disconnect
- raceway

4. _____ receptacles shall be installed in a readily accessible location.

- Arc-fault circuit-interrupter type
- Ground-fault circuit-interrupter type
- both of the answers provided
- neither of the answers provided

5. Screws used to attach a receptacle to a box will be of the type provided with a listed receptacle, or part of listed assemblies or systems.

- True
- False

6. In seating areas or similar surfaces, receptacles shall not be installed in a face-up position unless they are _____.

- part of an assembly listed as a furniture power distribution unit
- part of an assembly listed either as household furnishings or as commercial furnishings
- listed either as a receptacle assembly for countertop applications or as a GFCI receptacle assembly for countertop applications
- installed in a listed floor box
- all of the answers provided

7. In all dwelling unit areas, all nonlocking-type _____, 15- and 20- ampere receptacles shall be listed as tamper-resistant.

- 110-volt
- 125-volt
- 220-volt
- none of the answers provided

8. All nonlocking-type 125-volt, 15- and 20-ampere receptacles located in _____ shall be listed as tamper-resistant.

- guest rooms
- guest suites of hotels and motels
- both of the answers provided
- neither of the answers provided

9. In all child care facilities, all nonlocking-type 125-volt, 15- and 20-ampere receptacles shall not be listed as tamper-resistant.

- True
- False

10. A receptacle supplying lighting loads shall be connected to a dimmer unless the plug/receptacle combination is a nonstandard configuration type that is specifically listed and identified for each unique combination.

- True
- False

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11. All circuits and circuit modifications shall be legibly identified as to their _____.
 - clear purpose
 - evident purpose
 - specific purpose
 - specific use
 - all of the answers provided
 12. _____ each circuit to be distinguished from all others will be the identifier.
 - An approved length of detail that allows
 - An approved degree of detail that allows
 - An unapproved degree of detail that allows
 - An unapproved length of detail that allows
 13. Luminaires in concealed locations under steel roof decking shall be installed and supported so that there is not less than _____ from the lowest surface of the roof decking to the top of the luminaire.
 - 1 inch
 - 1-1/4 inch
 - 1-1/2 inch
 - 2 inches
 14. The scope that covers lighting systems operating at 30 volts or less, and their associated components, shall also cover _____.
 - lighting equipment connected to a Class 1 power source
 - lighting equipment connected to a Class 1 distributor
 - lighting equipment connected to a Class 2 power source
 - lighting equipment connected to a Class 3 power source
 15. A low-voltage lighting system operating at 30 volts shall consist of _____ that is/are identified for the use.
 - an isolating power supply
 - low-voltage luminaires
 - associated equipment
 - all of the answers provided
 16. A low-voltage lighting system's output circuit for a power supply shall be rated for _____ maximum under all load conditions.
 - 25 amperes and 30 volts
 - 30 amperes and 25 volts
 - 10 amperes and 30 volts
 - 25 amperes and 20 volts
 17. Listed Class 2 lighting equipment shall be rated in conformance with _____.
 - Chapter 9
 - Table 11(A)
 - Table 11(B)
 - any of the answers provided
 18. The device providing GFCI protection required in this article shall be readily accessible.
 - True
 - False
 19. Canopies of ceiling-suspended (paddle) fans and outlet boxes taken together shall provide sufficient space so that _____ can be installed.
 - conductors
 - connecting devices
 - both of the answers provided
 - neither of the answers provided
 20. Each outlet box shall be provided with a cover unless covered by means of a ceiling-suspended (paddle) fan canopy.
 - True
 - False
- Quiz 6 – Chapter 5**
1. Class 1 Hazardous Locations are those that have explosive _____ present in the air in quantities sufficient to produce explosive or ignitable mixtures.
 - gas
 - fibers
 - dust
 - droplets
 2. Class 1 Division _____ category is flammable under normal operating conditions.
 - 1
 - 2
 - 3
 - 4
 3. Class 1 Division _____ category is flammable when there is an accidental breakdown.
 - 1
 - 2
 - 3
 - 4

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4. Combustible dust particles are _____ microns or smaller, and present a fire or explosion hazard when dispersed and ignited in air.
 - 100
 - 200
 - 300
 - 400
 - 500
5. Combustible dust particles will pass through a US No. _____ Standard Sieve.
 - 25
 - 30
 - 35
 - 40
 - 50
6. Which of the following is not part of the Dust Fire & Explosion Pentagon?
 - Ignition source
 - Confinement of dust cloud
 - Combustible dust
 - Dispersion of dust particles
 - Relative humidity of the air
7. For equipment installed in a Class II, Division 1 location, the temperature class or operating temperature shall be based on operation of the equipment when blanketed with the _____ amount of dust that can accumulate on the equipment.
 - maximum
 - minimum
 - average
 - 24 hour accumulation
 - Monthly
8. Class I Temperature. The temperature marking specified in 500.8(C) shall _____ the autoignition temperature of the specific gas or vapor to be encountered.
 - not exceed
 - be equal to
 - be less than
9. "Autoignition" temperature is interchangeable with _____.
 - ignition temperature
 - combustion temperature
 - self-contained burning temperature
 - self-starting combustion temperature
10. Where necessary to employ flexible connections, i.e. at motor terminals, the following shall be permitted:
 - Flexible fittings listed for the location
 - A flexible cord in accordance with the provisions of 501.140 that is terminated with cord connectors listed for the location
 - Both of the answers provided
 - Neither of the answers provided
11. Type TC-ER-HL cable can be used in an industrial location if the following conditions are present:
 - There is restricted public access
 - Only qualified personnel is permitted to service the installation
 - The equipment is limited to 600 V or less
 - The cable is protected from damage by a suitable guard
 - All of the listed requirements plus at least 3 more requirements
12. Type TC-ER-HL cable can be used in an industrial location if the following conditions are present. Which of the following is not a listed requirement?
 - The cable has an overall jacket.
 - The cable has a separate equipment grounding conductor.
 - The cable is terminated with fittings listed for the location.
 - The cable must have a UV protected covering.
13. Optical fiber cable Types OFNP, OFCP, OFNR, OFCR, OFNG, OFCG, OFN, and OFC shall be permitted to be installed in raceways in accordance with 501.10(A).
 - True
 - False
14. The purpose of sealing optical fiber cable is to _____.
 - exclude moisture and other fluids from the cable insulation
 - stop the movement of air from a listed hazardous space to an unclassified space
 - stop the movement of fluids from a listed hazardous space to an unclassified space
 - stop gas movement from a listed hazardous space to an unclassified space
 - all of the answers listed

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15. A cable seal must be installed within _____ of Class 1 Hazardous location enclosures.
- 12 inches
 - 18 inches
 - 24 inches
 - 36 inches
16. Entry into an enclosure located in a Class 1 Hazardous A cable seal is not required if the switch is _____.
- 24 volts or less
 - bonded and grounded
 - located in a hermetically sealed chamber
 - remotely operated
17. A cable seal is not required if the switch in the enclosure is immersed in _____.
- water
 - oil
 - gasoline
 - 10 W-40
 - turpentine
18. A cable seal in a Class 1 Hazardous location is not required if the switch is located in _____.
- a metal chamber
 - an explosion-proof
 - a factory chamber
 - an identified location
 - an explosion-proof chamber, identified for the location, and factory sealed
19. A non-incendive circuit _____.
- may spark under normal operations but the sparks do not have enough energy to cause ignition
 - is also known as a double- bonded circuit
 - is also known as a double- grounded circuit
 - is a circuit that is not electrically powered
20. A conduit entering a pressurized enclosure from a Class 1 area must have conduit seals, and shall be installed within _____ of the enclosure in each conduit entry into a pressurized enclosure where the conduit is not pressurized as part of the protection system.
- 12 inches
 - 18 inches
 - 24 inches
 - 36 inches
21. Where two or more explosion-proof enclosures require conduit seals, the seals shall not be located more than _____ from each enclosure.
- 12 inches
 - 18 inches
 - 24 inches
 - 36 inches
22. Where two or more explosion-proof enclosures require conduit seals, the total run distance of the nipples between the two enclosures shall not be more than _____.
- 12 inches
 - 18 inches
 - 24 inches
 - 36 inches
23. A conduit seal shall be required in each conduit run leaving a Division 1 location, and must be installed within _____ of the division boundary.
- 2 feet
 - 5 feet
 - 10 feet
 - 15 feet
 - 20 feet
24. Metal conduit that contains no unions, couplings, boxes, or fittings, and that passes completely through a Division 1 location with no fittings installed within 12 inches of either side of the boundary, shall not require a conduit seal if the termination points of the unbroken conduit are located in unclassified locations.
- True
 - False
25. For an electrical system in a Class 1 location, bonding can be made by _____.
- bonding jumpers
 - locknut bushings
 - either bonding jumpers or locknut bushings
 - neither bonding jumpers nor locknut bushings

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26. In a Class 1 location, flexible metal conduit does not need an equipment bonding jumper if the following conditions are met except _____.
- if the voltage is less than 120 V
 - the length of flexible metal is less than 6 feet
 - the circuit has a maximum amp load of 10 amps
 - the circuit is not a power utilization load
27. Generally, receptacles in a Class 1 location shall be part of the premises wiring.
- True
 - False
28. An attachment plug in conjunction with a receptacle in a Class 1 location must have the attachment switch in the _____ position before the plug can be inserted or removed.
- off
 - on
 - neutral
 - positive
 - negative

Quiz 7

1. Class II Hazardous locations are those that have explosive _____ present in the air in quantities sufficient to produce explosive or ignitable mixtures.
- gas
 - fibers
 - dust
 - droplets
2. Class II Division _____ category is flammable under normal operating conditions.
- 1
 - 2
 - 3
 - 4
3. Class II Division _____ category is flammable when there is an accidental breakdown.
- 1
 - 2
 - 3
 - 4
4. Which of the following methods is used to properly seal optical fiber cable installed in a Class 2 location?
- electrical sealing putty
 - If the cable is installed in a horizontal raceway at least 10 ft. long
 - If the cable is installed in a vertical raceway at least 5 ft. long, extending downward from a dust-proof ignition enclosure
 - If the cable is installed in a raceway with (2) or (3) that extends only horizontally and downward from a dust-proof ignition enclosure
 - all of the answers provided
5. In Class II locations, a flexible cord can be used with portable lighting equipment if the connection between portable lighting equipment and the fixed portion of its supply circuit _____.
- is attached to the utilization equipment with a cord connector that is listed for the protection of the equipment wiring compartment
 - of the attachment plug is in accordance with 502.145
 - both of the answers provided
 - neither of the answers provided
6. A flexible cord can be used in a Class II location on fixed or mobile electrical equipment if it is _____.
- protected from damage by a suitable guard
 - located only in an industrial establishment
 - in a location where only qualified people can install and service the installation
 - all of the answers provided
7. In a Class II location, a flexible cord can be used with an electric submersible pump when _____.
- the pump can be removed without entering the wet-pit
 - the wet pit is fully ventilated
 - the fluids pumped are non-toxic
 - all of the listed answers
 - none of the listed answers
8. A flexible cord can be used with an electric mixer in a Class II location when it is intended to travel into and out of open-type tanks or vats.
- True
 - False

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9. Flexible cords used in Class II Hazardous locations shall comply with all the following conditions except _____.
 - it must be of extra-hard usage
 - it must only be yellow in color
 - it must be in Division 1, and have a listed cord connector and seal
 - it must be of a continuous length
 - None of the answers provided
10. Class III Hazardous locations are those that have explosive _____ present in the air in quantities sufficient to produce explosive or ignitable mixtures.
 - gas
 - fibers
 - dust
 - droplets
11. Class III Division _____ category is flammable under normal operating conditions.
 - 1
 - 2
 - 3
 - 4
12. Class III Division _____ category is flammable when originated from a different location.
 - 1
 - 2
 - 3
 - 4
13. Elevator cable can be used in a Class III hazardous location if _____.
 - it is shown under the “use” column in Table 400.4
 - it is terminated with listed dust-tight fittings
 - both of the answers provided
 - neither of the answers provided
14. General-purpose enclosures shall be permitted for intrinsically safe apparatus because a general- purpose enclosure _____.
 - protects against dust
 - protects against light
 - protects against indirect splashing
 - prevents contact with live parts
 - all of the answers provided

Quiz 8

1. For Motor Fuel Dispensing Stations located at boatyards and marinas, the electrical wiring and equipment located at or serving these locations shall be installed _____ of the wharf, pier, or dock _____ the liquid piping system.
 - on the side – opposite
 - in front – next to
 - behind – opposite
 - behind – next to
2. A dock with closed construction must have _____ between the bottom of the dock and the water.
 - no space
 - 18 inches of space
 - open space
 - open space greater than 18 inches
3. A dock with open construction is built on pilings, floats or similar construction. It has _____ between the bottom of the dock and the water.
 - no space
 - 18 inches of space
 - open space
 - open space greater than 18 inches
4. For both open and closed dock construction, the Class I Hazardous location zone is _____ in height and _____ around the fuel dispenser.
 - 18 inches, 20 feet
 - 20 inches, 18 feet
 - 16 inches, 10 feet
 - 24 inches, 30 feet
5. The classified area on an above-ground motor fuel tank dispenser is _____ horizontally from the dispenser.
 - 10 feet
 - 20 feet
 - 30 feet
 - 40 feet
6. An example of an unclosed spray process would be _____.
 - spraying a boat outdoors
 - spray painting the exterior of a house with oil based paint
 - spray painting a car in one’s driveway
 - all of the answers provided
 - none of the answers provided

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7. A Class I Division 1 zone is _____ horizontally and _____ vertically.
 - 1-1/2 foot – 10 feet
 - 10 feet – 20 feet
 - 20 feet – 10 feet
 - No dimensions for this zone are defined.
8. The classified area for a closed-top, open-face and open-front spray booth is _____ of any opening.
 - 3 feet
 - 5 feet
 - 10 feet
 - 15 feet
 - 20 feet
9. The classified area Class 1, Division 2 for an open-top spray booth is _____ vertically above the booth and _____ from other booth openings.
 - 18 inches – 20 feet
 - 3 feet – 20 feet
 - 3 feet – 3 feet
 - 10 feet – 20 feet
10. The classified area Class 1, Division 2 for an enclosed spray booth is an area of _____ from any opening.
 - 3 feet
 - 5 feet
 - 10 feet
 - 20 feet
11. In an enclosed spray booth, where the exhaust air is re-circulated, the interior of the recirculation path is classified as a hazardous location.
 - True
 - False
12. In a classified area Class 1, Division 2 for a limited finishing workstation, the area inside the _____ space horizontally and vertically, beyond the volume enclosed by the outside surface of the curtains or partitions, shall be classified.
 - 3 feet
 - 5 feet
 - 10 feet
 - 20 feet

Quiz 9 – Chapter 6

1. Fixed, mobile, or portable electric signs, section signs, outline lighting, and retrofit kits, regardless of voltage, shall be _____ unless otherwise approved by special permission.
 - listed
 - provided with installation instructions
 - listed and installed in conformance with that listing
 - all of the answers provided
2. Signs, outline lighting, skeleton tubing systems, and retrofit kits shall be _____ as required.
 - marked to indicate the field wiring
 - marked with installation instructions
 - both of the answers provided
 - neither of the answers provided
3. Portable and cord-connected signs are required to be marked with installation instructions.
 - True
 - False
4. A disconnect for a sign shall be located where?
 - On the side of the building supplying the sign.
 - Inside the building supplying the sign.
 - At the point of entry to the sign.
 - Inside the sign enclosure.
5. A disconnect shall not be required for _____ passing through the sign where enclosed in a listed raceway.
 - a branch
 - a feeder circuit
 - both of the answers provided
 - neither of the answers provided
6. Metal equipment of _____ must be connected to the circuit equipment grounding conductor.
 - signs
 - outline lighting systems
 - skeleton tubing
 - all of the answers provided

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7. _____ shall be of the self-contained type or be enclosed by placement in a listed sign body or listed separate enclosure.
 - Ballasts
 - Transformers
 - Electronic power supplies
 - Class 2 power sources
 - all of the answers provided
8. An elevator disconnecting means shall be an enclosed externally operable fused motor circuit switch or circuit breaker that is lockable in the open position.
 - True
 - False
9. The provisions for locking shall remain in place _____ the lock installed for an elevator disconnecting means.
 - A. with
 - B. without
 - C. every other day with
 - D. only A and B
10. Audio system equipment supplied by branch-circuit power shall not be placed horizontally within _____ of the inside wall of a pool.
 - 1 foot
 - 2 feet
 - 3 feet
 - 4 feet
 - 5 feet
11. Separately derived information technology equipment is an example of _____.
 - a computer
 - a laptop
 - a projector
 - a data center
 - none of the answers provided
12. Non-separately derived information technology equipment is an example of _____.
 - A. a computer
 - B. a laptop
 - C. a projector
 - D. a data center
 - E. only A, B, and C
13. A portable hot tub that is aboveground shall be capable of holding water to a maximum depth of _____.
 - 36 inches
 - 58 inches
 - 42 inches
 - 72 inches
14. Electrical equipment shall be installed in rooms or pits that do not have a drainage to prevent water accumulation during normal operation or filter maintenance.
 - True
 - False
15. Each means shall be readily accessible and within sight of its equipment, and shall be located at least _____ horizontally from the inside walls of a fountain.
 - 1 foot
 - 2 feet
 - 3 feet
 - 4 feet
 - 5 feet
16. The fountain's horizontal distance is to be measured from the water's edge along the _____ path required to reach the disconnect.
 - longest
 - shortest
 - highest
 - none of the answers provided
17. GFCI protection is required for outlets supplying pool pump motors connected to _____, whether by receptacle or direct connection.
 - 1-phase 120v through 220v
 - 2-phase 120v through 220v
 - 1-phase 120v through 240v
 - 2-phase 120v through 240v
18. Low voltage luminaires that aren't grounded, and don't exceed the low voltage contact, shall be allowed to be located less than _____ from the inside walls of the pool.
 - 1 foot
 - 2 feet
 - 3 feet
 - 4 feet
 - 5 feet

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19. _____ supplying the sign shall have ground-fault circuit-interrupter protection for personnel.
- Branch circuits
 - Feeders
 - Both of the answers provided
 - Neither of the answers provided
20. Both metal piping systems and grounded metal parts in contact with the circulating water, shall be bonded together using a solid bonding jumper that is _____ not smaller than 8 AWG.
- insulate
 - covered
 - bare
 - all of the answers provided
5. Ground Fault Protection of Equipment (GFPE) _____ required with automatic disconnecting means on emergency power systems. If this is the case, then there _____ be a method of indication.
- is – must
 - is not – must
 - is – is not required to
 - is not – is required to
6. Selective coordination is designed by a licensed professional engineer or other qualified person engaged in _____ of electrical systems.
- design
 - installation
 - maintenance
 - all of the answers provided

Quiz 10 – Chapter 7 & 8

1. A Surge Protection Device (SPD) is required on _____ for switchboards and panelboards.
- emergency systems less than 15 KW
 - emergency systems greater than 15 KW
 - 208/240 volt emergency systems
 - any emergency system
2. A generator is required to have only one (1) disconnecting means if the following condition(s) is/are met.
- If a generator is located outdoors
 - If there is a readily accessible disconnect
 - If the disconnect is within sight of the building
 - If all ungrounded conductors pass through the building
 - All of the answers provided
3. An emergency lighting system shall be installed in the disconnect area when the disconnects are installed _____.
- indoors
 - outdoors
 - either indoors or outdoors
 - only in a room without windows
4. Multi-wire branch circuits are allowed for emergency lighting and power circuits if _____.
- the total load is 20 amps or less
 - if the circuit is 120 v
 - found on a residential installation
 - never allowed
7. An outdoor generator set is equipped with a readily accessible disconnecting means in accordance with 445.18. The disconnecting means is located within sight of the building. How many additional disconnecting means are required where ungrounded conductors serve or pass through the building or structure?
- Zero
 - One
 - Two
 - Three
8. A power inlet is used for a temporary connection to a portable generator, and a warning sign shall be placed near the inlet to indicate the type of derived system and its capabilities. Based on the wiring of the transfer equipment, which of the following is the correct warning label?
- WARNING: FOR 120/240 VOLT SYSTEM ONLY
 - WARNING: FOR CONNECTION OF A SEPARATELY DERIVED (BONDED NEUTRAL) SYSTEM ONLY
 - WARNING: FOR 3 PHASE POWER – 208/240 VOLT SYSTEM ONLY
 - All of the answers provided
 - None of the answers provided

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9. How many additional disconnecting means are required for the ungrounded conductors of a generator greater than 15kW if it is installed outdoors, and has a readily accessible disconnecting means which is within sight of the building supplied.
 - Zero
 - One
 - Two
 - Three
10. A portable generator less than 15kW is installed using a cord-and plug-type connection. How many additional disconnecting means are required where ungrounded conductors serve or pass through the building or structure?
 - Zero
 - One
 - Two
 - Three
11. In a power-limited circuit raceway, the following are permitted:
 - a water pipe
 - a steam pipe
 - a natural gas line
 - a PEX water line
 - none of the answers provided
12. Class 2 and Class 3 cables installed in corrosive, damp, or wet locations should have cable covering ratings for these locations.
 - True
 - False
13. What is the number of PLFA circuits that can be run in a raceway or cable routing assembly?
 - Zero
 - One
 - Two
 - Three
 - Two or more
14. An innerduct is _____.
 - a nonmetallic raceway placed within a larger raceway
 - used in a double plenum for air conditioning systems
 - a metallic outer tube with metallic inner tubes for optical fiber
 - none of the answers provided
15. An optical fiber cable is a _____ assembly of _____ optical fibers having an overall covering.
 - factory – one or more
 - field – four or more
 - factory – four or more
 - either factory or field – one or more
 - none of the answers provided
16. Optical fiber cables located in plenums shall _____ when nonmetallic cable ties and other nonmetallic cables accessories are used for securing and supporting.
 - be listed as having low smoke properties
 - be listed as having low heat release properties
 - be listed as having both low smoke and low heat release properties
 - be black in color
 - lock into position
17. Unlisted nonconductive outside plant optical fiber cables shall be permitted to enter the building from the outside, and shall be permitted to be installed in any of the following raceways except _____.
 - Intermediate metal conduit (IMC)
 - Rigid metal conduit (RMC)
 - Rigid polyvinyl chloride conduit PVC
 - Electrical metallic tubing (EMT)
 - Type L copper tubing
18. Rigid metal conduit (RMC) or intermediate metal conduit (IMC) containing optical fiber entrance cable shall be connected by _____ to a grounding electrode in accordance with 770.100(B).
 - a bonding conductor
 - a grounding electrode conductor
 - both answers are correct
 - neither answer is correct
19. When installing optical fiber cable in ENT, the electrician must adhere to the following code articles:
 - 362.24 – bending radius
 - 362.26 – max. bends – 360
 - 362.28 – trim to remove burrs on ends
 - 362.30 – support every 3 feet
 - All of these code articles

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20. An electrical circuit protective system is used _____.
- to protect the wiring system if power is interrupted by a fire
 - to prevent an arch flash
 - to minimize toxic gas from a fire
 - to automatically signal the fire department
21. An innerduct is _____.
- a nonmetallic raceway placed within a larger raceway
 - used in a double plenum for air conditioning systems
 - a metallic outer tube with metallic inner tubes for optical fiber
 - none of the answers provided
22. Communication cables located in plenums shall _____ when nonmetallic cable ties and other nonmetallic cables accessories are used for securing and supporting.
- be listed as having low smoke properties
 - be listed as having low heat release properties
 - be listed as having both low smoke and low heat release properties
 - be black in color
 - lock into position
23. Rigid metal conduit containing communications entrance wire or cable shall be connected by a _____ to a grounding electrode in accordance with 800.100(B).
- bonding conductor
 - grounding electrode conductor
 - both answers are correct
 - neither answer is correct
24. When installing communication wires and cable in ENT, the electrician must adhere to the following code articles:
- 362.24 – bending radius
 - 362.26 – max. bends - 360
 - 362.28 – trim to remove burs on ends
 - 362.30 – support every 3 feet
 - All of these code articles
25. The maximum spacing between vertical supports for communication cables is _____.
- 4 feet
 - 5 feet
 - 10 feet
 - 12 feet
 - 20 feet
26. When installing antenna cables for television and radio, nonmetallic cable and cable accessories shall be used. These cable ties shall _____.
- be listed as having low smoke properties
 - be listed as having low heat release properties
 - be listed as having both low smoke and low heat release properties
 - be black in color
 - lock into position