- Communications wires and cables shall be separated at LEAST a certain minimum distance from service drops of electric light and power conductors which are not installed in a raceway or in a cable. What is this minimum distance?

 a. 150 mm
 b. 175 mm
 c. 300 mm
 d. 200 mm
- A WYE-DELTA starter for a single voltage three phase SC induction motor would require the connection of a certain number of wires from the motor. How many wires would be needed?

 a. 3 wires
 b. 9 wires
 c. 6 wires
 d. 12 wires
- 3. As compared with solid wires, stranded wires of the same cross sectional area have the following advantages EXCEPT one. Which one is this?
 - a. It is larger in overall diameter
 - b. It is easier to skin off the insulation
 - c. It is better for high voltage
 - d. It has a higher current rating
- 4. According to the PEC Code, the minimum insulation level for neutral conductors of residential installations which have solidly grounded systems shall NOT be less than this voltage? Which is this?
 a. 1,000 volts
 b. 300 volts
 c. 600 volts
 d. 750 volts
- 5. The grounding electrode for grounding communications system may be connected to the nearest accessible location on any of the following EXCEPT one. Which one is this?
 - a. Buried interior PVC water piping system
 - b. Grounding electrode conductor
 - c. Building structure
 - d. Counterpoise of the tower
- 6. Transformers are rated in a. kW b. kV
 - c. kWH d**. kVA**
- 7. A _____ is a certain type cartridge fuse that can be readily replaced.
 a. time-lag fuse
 b. permanent fuse
 c. one-time fuse
 d. renewable fuse
- 8. Electricity may be produced by means of _____ forces.
 a. mechanical b. thermal c. chemical d. all of these
- Openings around electrical penetrations through fire-resistant rated walls, partitions, floors or ceilings shall be _____.
 - a. bushed b. sleeved c. fire stopped d. isolated
- 10. In the computation of the size of building wire, the PEC requires that at least a certain percent increase must be added. What percent is this?
 a. 20%
 b. 15%
 c. 50%
 d. 25%
- 11. The maximum total voltage drop on both feeders and branch circuits to the farthest outlet should not exceed _____ percent of the supply voltage.
 a. 5
 b. 3
 c. 2
 d. 10
- 12. The total load on any overcurrent device located in a panelboard shall not exceed ______percent of its rating where in normal operation the load will continue for 3 hours or more.a. 70**b. 80**c. 60d. 50

- 13. A device designed to open and close a circuit by nonautomatic means and to open the circuit automatically on a predetermined overcurrent without damage to itself when properly applied within its rating.
- b. disconnect a. Circuit breaker c. relay d. switch
- 14. The ratio of the maximum demand of a system, or part of a system, to the total connected load of a system or the part of the system under consideration.
 - a. Demand factor c. load factor

- b. diversity factor
- d. capacity factor
- 15. A device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.
 - a. Disconnecting Means b. Fusing Means
 - c. Isolating Means
- d. Capacity Means
- 16. The case or housing of apparatus, or the fence or walls surrounding an installation to prevent personnel from accidentally contacting energized parts or to protect the equipment from physical damage.
 - a. Enclosure b. Casing c. housing d. concealing
- 17. A general term including material, fittings, devices, appliances, luminaires (fixtures), apparatus, and the like used as a part of, or in connection with, an electrical installation. a. Device b. Equipment. c. tool d. machine
- 18. An accessory such as a locknut, bushing, or other part of a wiring system that is intended primarily to perform a mechanical rather than an electrical function. b. bob d. Fitting. a. plump c. lorrv
- 19. Installations under ground or in concrete slabs or masonry in direct contact with the earth; in locations subject to saturation with water or other liquids, such as vehicle washing areas; and in unprotected locations exposed to weather.
 - a. Moist Location b. Wet Location. c. proof location d. Dry Location
- 20. A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction. a. Moist Location b. Wet Location.
 - c. proof location d. Dry Location
- 21. A type of surface, flush, or freestanding raceway designed to hold conductors and receptacles, assembled in the field or at the factory.

a. Multioutlet Assembly.	b. Single outlet
c. special outlet	d. flush assembly

- 22. A flammable liquid having a flash point below _____or a flammable liquid whose temperature is above its flash point, or a Class II combustible liquid that has a vapor pressure not exceeding 276 kPa at 38°C and whose temperature is above its flash point. a. 83°C b. 45 °C c. 38°C d. 54°C
- 23. An assembly of a fuse support with either a fuseholder, fuse carrier, or disconnecting blade. The fuseholder or fuse carrier may include a conducting element (fuse link) or may act as the disconnecting blade by the inclusion of a nonfusible member.
 - a. Cutout. b. fuse c. canopy d. mandrel

24.	Receptacle outlets in floors	shall not be counted as p	part of the required numb	per of receptacle
	outlets unless located within	of the wall.		
	a. 450 mm	b. 900 mm	c. 1800 mm	d. 150 mm

25.	For a one-family dwelling an	d each unit of a two-fam	ily dwelling that is at	grade level, at least
	one receptacle outlet access	sible at grade level and r	ot more than	above grade shall
	be installed at the front and back of the dwelling			
	a. 200 mm	b. 150 mm	c. 1800 mm	d. 2000 mm

- 26. At least _____ wall switch–controlled lighting outlet or wall switch–controlled receptacle shall be installed in guest rooms in hotels, motels, or similar occupancies. **a. One** b. two c. none d. four
- 27. When the total connected load is operated simultaneously, the demand factor isa. 100b. 40c. 50d. 80
- 28. Where computations result in a fraction of an ampere that is less than _____, such fractions shall be permitted to be dropped.
 a. 0.5 b. 0.25 c. 0.1 d. 0.75
- 29. The maximum number of outlets permitted on 15- and 20-ampere branch circuits is ______ and _____ outlets, respectively **a. 10, 13** b. 10, 8 c. 13, 10 d. 8, 10
- 30. Open conductors shall be supported on the following except for.
 - a. glass b. porcelain knobs
 - c. strain insulators d. pendant
- 31. A grounded conductor shall be permitted to be uninsulated as follows except for a. insulated copper used in a raceway.
 - b. Bare copper for direct burial where bare copper is judged to be suitable for the soil conditions.
 - c. Bare copper for direct burial without regard to soil conditions where part of a cable assembly identified for underground use.
 - d. Aluminum or copper-clad aluminum without individual insulation or covering where part of a cable assembly identified for underground use in a raceway or for direct burial.
- 32. Disconnecting means shall be provided on the ______side of all fuses in circuits over 150 volts to ground and cartridge fuses in circuits of any voltage where accessible to other than qualified persons so that each individual circuit containing fuses can be independently disconnected from the source of power.

a. Supply	D. IUdu Siuc	
c. circuit breaker side	d. grounded conductor	

- 33. Where not subject to physical damage, Type MC cables shall be permitted as follows except for :
 - a. For services, feeders, and branch circuits
 - b. For power, lighting, control, and signal circuits
 - c. Indoors or outdoors
 - d. where exposed to the destructive corrosive conditions

- 34. Where not subject to physical damage, Type MC Cables shall be permitted as follows except for
 - a. Where exposed or concealed
 - b. Direct buried where identified for such use
 - c. In cable tray
 - d. Where exposed to cinder fills, strong chlorides, caustic alkalis, or vapors of chlorine or of hydrochloric acids
- 35. A factory assembly of one or more conductors insulated with a highly compressed refractory mineral insulation and enclosed in a liquid tight and gastight continuous copper or alloy steel sheath.

a. Mineral-Insulated

c. Type MI

b. Metal-Sheathed Cable d. MS cable

- 36. Where a conduit enters a box, fitting, or other enclosure, a _____shall be provided to protect the wire from abrasion unless the design of the box, fitting, or enclosure is such as to afford equivalent protection.
 a. Bushing
 b. condulet
 c. ramset
 d. plump bob
- 37. The following are permitted as an equipment grounding conductor except for
a. RMCa. RMCb. IMCc. RNCd. EMT
- 38. EMC shall not be used in the following except for
 a. In hoist ways
 b. In storage battery rooms
 c. In any hazardous (classified) location
 d. exposed and concealed locations
- 39. EMT shall not be used under the following conditions except for
 - a. Where, during installation or afterward, it will be subject to severe physical damage
 - b. Where protected from corrosion solely by enamel
 - c. In any hazardous (classified) location
 - d. for both exposed and concealed work.
- 40. EMT shall be permitted to be used for branch circuits as follows except for :
 - a. In dry locations
 - b. Where concealed
 - c. For system voltages of 1000 volts maximum
 - d. In storage battery rooms
- 41. A grounded metal enclosure containing factory-mounted, bare or insulated conductors, which are usually copper or aluminum bars, rods, or tubes

 a. Bus way
 b. cable tray
 c. cable bus
 d. Bus trench
- 42. Neutral bus, where required, shall be sized for the following except for
 - a. carry neutral load current,
 - b. carry harmonic currents
 - c. shall have adequate momentary and short-circuit rating consistent with system requirements.
 - d. carry the sub synchronous current
- 43. The current-carrying conductors in cable bus shall have an insulation rating of _____ or higher
 a. 75°C
 b. 60
 c. 90
 d. 110
- 44. The combined cross-sectional area of all conductors or cables shall not exceed ______
percent of the cross-sectional area of the cell or header.a. 40b. 30c. 21d. 31

- 45. Conductors shall not be installed in cellular metal floor raceways as follows except for
 - a. Where subject to corrosive vapor
 - b. In any hazardous (classified) location
 - c. In commercial garages, other than for supplying ceiling outlets or extensions to the area below the floor but not above
 - d. enclosures for electric conductors.
- 46. Splices and taps shall be permitted within a wireway provided they are accessible. The conductors, including splices and taps, shall not fill the wireway to more than percent of its area at that point. d. 80 <mark>a. 75</mark>
 - b. 30 c. 100
- 47. Concealed knob-and-tube wiring shall not be used in the following except for
 - a. Motion picture studios
 - b. Hazardous (classified) locations
 - c. Hollow spaces of walls, ceilings, and attics where such spaces are insulated by loose, rolled, or foamed-in-place insulating material that envelops the conductors
 - d. exposed or concealed wiring
- 48. Flexible cords and cables shall be used only for the following except for
 - a. Pendants
 - b. Wiring of luminaires (fixtures)
 - c. Connection of portable lamps, portable and mobile signs, or appliances
 - d. As a substitute for the fixed wiring of a structure
- 49. Flexible cords and cables shall be used only for the following except for
 - a. Elevator cables
 - b. Wiring of cranes and hoists
 - c. Prevention of the transmission of noise or vibration
 - d. Where run through doorways, windows, or similar openings
- 50. According to PEC, which of the following is not a standard practice?
 - a. Conductors shall be secured in a manner that does not tend to cut or abrade the insulation.
 - b. Conductor insulation shall be protected from abrasion where it passes through metal.
 - c. Splices and taps shall not be located within luminaire (fixture) arms or stems.
 - d. Splices or taps shall be made within or on a luminaire (fixture).