

Questions for 2008 Code Change Correspondence Course

1. A disconnecting means shall be provided for all ungrounded conductors derived from a stationary battery system over _____.

- A) 200 amps.
- B) 50 volts.
- C) 30 volts.
- D) 50 amps.
- E) 48 volts.

2. Flexible Metal Conduit used to connect equipment where flexibility is required after installation:

- A) must utilize stranded conductors.
- B) requires the installation of an equipment grounding conductor.
- C) cannot be longer than 1.4 meters, (4^{1/2} ft.).
- D) provides adequate grounding if listed fittings are used.
- E) shall only be used in trade sizes larger than 1^{1/4} inches.

3. Which of the following wiring methods is not permitted for pool, hot tub, or spa feeders in areas subject to corrosion?

- A) rigid metal conduit.
- B) electrical non-metallic tubing.
- C) rigid polyvinyl chloride conduit.
- D) electrical metallic tubing.
- E) aluminum conduit.

4. The XO terminal of a separately derived system or transformer is referred to by the 2008 NEC as the:

- A) neutral conductor.
- B) grounding electrode point.
- C) neutral point.
- D) grounded service entrance conductor.
- E) white terminal.

5. When these products are installed in the state of Oregon, they are not exempted from requirements for listing or product certification:

- A) underground traffic signaling loops.
- B) medical diagnostic imaging equipment.
- C) some utility distribution transformers.
- D) some components of heating and air conditioning appliances.
- E) electrical products on the load side of a class 2 transformer, in a wet location.

6. Two new AWG sizes have been identified in the 2008 NEC for use in cord sets and power supply cords. These sizes are ____ and ____ .

- A) 15, 17.
- B) 9, 13.
- C) 20, 27.
- D) TPT, TST.
- E) SJT, SEW.

7. Service disconnects in underground or overhead primary power distribution systems on private property:

- A) must incorporate Ground Fault Protection.
- B) are not required to be readily accessible.
- C) must be equipped with surge arresters.
- D) shall be provided with collector rings.
- E) shall connect loadside conductors to a grounding electrode when open.

8. The inside of enclosures and raceways installed below grade:

- A) shall meet the requirements of 310.8(C).
- B) require connectors and splices to be listed.
- C) are considered wet locations.
- D) all of the above.
- E) Are considered damp locations by the 2008 NEC.

9. Hydromassage bathtubs equipped with metal water piping systems and/or metal parts in contact with the water:

- A) are exempt from bonding requirements.
- B) require a solid #8 copper jumper for equipotential bonding.
- C) shall be bonded with the equipment grounding conductor.
- D) are exempt from bonding if the pump motor is double insulated.
- E) must be bonded to the remote panelboard with a #8 solid copper conductor.

10. Type NM cable shall not be installed:

- A) or fished in air voids in masonry block or tile walls.
- B) above a suspended ceiling.
- C) in multi-family dwellings.
- D) in conduit or tubing.
- E) in wet or damp locations.

11. Arc Fault Circuit Interrupter protection is not required in residences:

- A) for 120v receptacles in bathrooms, kitchens, and laundry rooms.
- B) on circuits that feed remote controlled ceiling fans.
- C) where EMT is the wiring method.
- D) as long as there is also GFCI protection.
- E) on multi-wire branch circuits.

12. A general journeyman electrician working in a manufacturing or industrial plant without a _____ is limited to maintenance work.

- A) general supervising electrician.
- B) limited plant supervising electrician.
- C) licensed electrical engineer.
- D) any of the above.
- E) contractor's license.

13. A permanently installed generator, connected to a three-pole transfer switch that doesn't open the grounded conductor is considered by the 2008 NEC to be:

- A) a separately derived system.
- B) an emergency source.
- C) a legally required standby system.
- D) subject to the requirements of article 517.
- E) a non-separately derived system.

14. The 2008 National Electrical Code defines *kitchen* as a room that contains:

- A) a sink.
- B) a food preparation area.
- C) permanent facilities for cooking.
- D) all of the above.
- E) a microwave oven.

15. These devices generally do not require special consideration of area or volume when mounted in a box or enclosure.

- A) tamper resistant receptacles.
- B) range or dryer receptacles.
- C) dimmer switches.
- D) GFCI devices.
- E) fire alarm system components.

16. Loads that are allowed to be connected to the life safety branch of a power distribution system in a health care facility include:

- A) emergency generator crankcase heater.
- B) mechanical ventilation equipment associated with the generator.
- C) generator control circuits.
- D) all of the above.
- E) only egress lighting and alarm systems.

17. GFCI protected receptacles are not required in the following locations:

- A) 2nd floor decks with no stairway access to the ground.
- B) unfinished basements.
- C) balconies and porches with less than 20 square feet.
- D) within 25 feet of air conditioning equipment.
- E) garage area convenience outlet.

18. A Restricted Energy Contractor with a CCB identification number:

- A) is limited to HVAC activities.
- B) must continuously employ a signing supervisor.
- C) can install voice and data systems.
- D) only works on one and two family dwellings.
- E) cannot install thermostat wiring.

19. Where a disconnecting means is not located within sight of the equipment it serves:

- A) it must be within 50 feet.
- B) provisions for multiple locks must be provided.
- C) a local disconnect must be provided.
- D) a unit switch on the equipment will suffice.
- E) a permanent locking means must be provided at the disconnect.

20. In indoor locations other than dwelling units and associated structures, luminaries that contain a ballast and double ended fluorescent lamps that can be serviced in place:

- A) shall have a disconnect external to the fixture.
- B) must have a disconnecting means accessible to a qualified person.
- C) requires a disconnect if the fixture is used for egress lighting.
- D) must be cord and plug connected.
- E) must have a breaker lockout device installed.

21. High density polyethylene conduit, intended primarily for underground installations shall not use this method for joining two sections of conduit.

- A) mechanical fittings.
- B) heat fusion.
- C) other approved means.
- D) electrofusion.
- E) PVC cement.

22. Only the following cable types shall be permitted to be installed under raised floors of information technology rooms:

- A) riser cables.
- B) plenum cables.
- C) all of these.
- D) general purpose cables.
- E) none of these.

23. Flexible Metal Conduit, type FMC is permitted to be used:

- A) where subject to physical damage.
- B) in storage battery rooms.
- C) in elevator hoistways, in lengths up to 8 feet.
- D) for the connection of utilization equipment.
- E) in wet location.

24. In agricultural buildings or areas, an accessible receptacle can be exempted from GFCI requirements:

- A) if it supplies a dedicated load, and there's a GFCI receptacle within 3 feet.
- B) in dirt confinement areas for livestock.
- C) if dedicated to freeze protection equipment.
- D) there are no exemptions.
- E) if the area has an equipotential plane.

25. In all dwelling units, a general use receptacle is not required:

- A) to serve wall counter spaces over 12 inches wide.
- B) on a 4' by 6' balcony with no stairway to the ground.
- C) in an unfinished basement.
- D) in an alcove more than 2' deep and 3' feet long.
- E) a receptacle is required in all of these locations.

26. Conductive parts of all permanent and portable electric signs are required to be grounded and bonded:

- A) to a grounding electrode.
- B) through metal building parts.
- C) to the grounded branch circuit conductor.
- D) except portable signs marked as double insulated.
- E) without exception.

27. Multiple 120 volt or 277 volt circuits that share a single grounded conductor, yet serve different loads:

- A) must be grouped for identification.
- B) all of these answers are true.
- C) must originate in the same panelboard.
- D) have to be simultaneously disconnected.
- E) have to be routed with an equipment grounding conductor.

28. A general supervising electrician in Oregon is authorized to design an electrical installation:

- A) of any photo voltaic system.
- B) in locations deemed by the fire marshal as hazardous.
- C) for customers of an electrical contractor that continuously employs him.
- D) in all commercial and residential applications.
- E) in manufacturing plants.

29. The interior of a raceway mounted on the outside of a building is considered:

- A) a wet location.
- B) protected from physical damage.
- C) a suitable place for type NM-B cable.
- D) suitable only for branch circuit conductors.
- E) a classified area.

30. If an electrical inspector writes a correction that requires a re-inspection prior to approval of an installation:

- A) he must notify the building official.
- B) he must cite the violated code section or rule.
- C) the permit holder has 30 days to make the correction.
- D) the permit fee is increased.
- E) the permit holder must respond within 48 hours.

31. Communication cables installed in or on a building:

- A) must be removed when they become obsolete.
- B) can present hazards of fire spread.
- C) are required to be protected from physical damage.
- D) can be tagged for future use.
- E) all of the above are true.

32. New National Electrical Code language helps to differentiate between:

- A) combustible fibers and flyings.
- B) combustible and explosive dusts.
- C) gasoline and diesel fuel.
- D) vapors produced from flammables and combustibles.
- E) propane and natural gas.

33. Which of these factors is not a necessary consideration for determining the ampacity of a given conductor size installed in a rooftop raceway?

- A) regional (geographic) location.
- B) distance from rooftop to raceway.
- C) raceway type.
- D) number of conductors in raceway.
- E) means of support for the raceway.

34. Which of the following electrical components would not be considered a device?

- A) occupancy sensors.
- B) solid state fan speed control.
- C) fire alarm pull station.
- D) GFCI receptacle.
- E) burglar alarm control panel.

35. A restricted energy electrical permit and installer's log can be taken out by:

- A) a property owner.
- B) any one of these.
- C) a limited energy installer.
- D) a general contractor.
- E) none of these.

36. What provision is required for convenient and practical use of electrical power at a 30 foot long show window in a retail commercial tenant space?

- A) three receptacles located within 18 inches of the top of the window.
- B) a 1500 watt receptacle on a sign circuit.
- C) two receptacles.
- D) three receptacles in the suspended ceiling above the window.
- E) one receptacle on each side of the show window.

37. Which of the following is not an acceptable type of equipment grounding conductor?

- A) bare stranded copper conductors.
- B) electrical metallic tubing.
- C) steel flex containing 30 amp circuit conductors.
- D) galvanized rigid conduit.
- E) intermediate metal conduit.

38. The service disconnecting means is required to be rated not less than the _____ load as determined using _____.

- A) actual, nameplate ratings of all the appliances.
- B) anticipated, 125% of all continuous loads.
- C) connected, amperage readings.
- D) calculated, parts III, IV, and V of article 220.
- E) expected, the maximum demand.

39. Ground fault circuit interrupter protection for personnel shall be provided to supply temporary power during construction, remodeling, maintenance, repair, or demolition:

- A) unless the permanent service is complete.
- B) only when the building's roof is incomplete.
- C) except for industrial applications.
- D) except for small tenant improvement projects.
- E) even when served by a generator.

40. Junction and pull boxes provided for the installation of insulated conductors #4 AWG and larger must be 6 times the size of the largest conduit entry:

- A) for straight pulls.
- B) for angle or U pulls or splices.
- C) except when conductors are spliced.
- D) unless there are only two raceways.
- E) except where raceways enter the back of the box.

41. Liquid tight flexible metal conduit shall not be used as the sole equipment grounding conductor in Class III, Division 1 or 2 locations:

- A) except for non-power utilization loads protected at 10amps or less.
- B) maximum length of 6 feet with fittings listed for grounding.
- C) except when both conditions above are met.
- D) wire type equipment bonding jumpers are always required.
- E) except for lengths less than 6 feet to non-vibrating equipment.

42. An individual branch circuit that supplies a stairway chair lift:

- A) is permitted to be cord and plug connected.
- B) must have a motor rated disconnect.
- C) must be hard-wired to prevent mischief.
- D) must have a minimum rating of 25 amps.
- E) must be supplied from an emergency circuit.

43. A device is a unit of an electrical system that conveys or controls electrical energy:

- A) and does not utilize power.
- B) and provides overcurrent protection.
- C) through mechanical contacts that open and close.
- D) as it's principle function, and may consume a small amount of energy.
- E) and provides ground fault and short circuit protection.

44. Equipment and enclosures such as remote control, signaling, or fire alarm circuits supplied by class 1 power limited circuits must be grounded if operating at over:

- A) 12 volts.
- B) 50 volts.
- C) 24 volts.
- D) 30 volts.
- E) 48 volts.

45. Luminaires exposed to wet locations through condensation or cleansing activities in agricultural buildings:

- A) shall be waterproof.
- B) are exempt from listing requirements.
- C) are limited to incandescent type.
- D) must be mounted at least ¼ inch from metal surfaces.
- E) shall be water tight.

46. Bare class 2 conductors are permitted to be installed on the load side of a class 2 power source:

- A) on insulators where one inch clearance is maintained.
- B) in accordance with article 620.21.
- C) as part of a listed intrusion protection system.
- D) when kept separate from non-power-limited cables.
- E) where installed in special insulated cable tray.

47. A bonding device installed on an electrical service enclosure to provide a termination point for intersystem bonding of radio and television receiving stations:

- A) must not interfere with the opening of the enclosure.
- B) has to be inside the enclosure.
- C) must be supplemented with a ground rod.
- D) has to be connected to the nearest water spigot.
- E) must be done by a licensed electrical contractor.

48. A final term apprentice electrician may work under indirect supervision of the responsible supervisor on projects:

- A) where the system cannot be energized.
- B) all of the below conditions must be met.
- C) where voltage is limited to 300 volts.
- D) not exceeding eight hours duration.
- E) if apprentice has a 6500 hour card issued by BOLI.

49. An enclosure that contains a 200 amp main breaker, terminal strips for neutral and grounding conductors, and bussing to support 60 single pole breakers:

- A) is considered a lighting and appliance panelboard.
- B) cannot be installed in the State of Oregon.
- C) is in violation of the 42 circuit limitation.
- D) can serve as service equipment is listed for such use.
- E) is permitted to be installed with the main switch at 7' above finished floor.

50. Type NM cables installed above a T-bar ceiling in a commercial building:

- A) constitutes an illegal installation.
- B) must be installed in a raceway.
- C) must be supported by grid wires every 4½ feet.
- D) are permitted for supplying fixtures.
- E) are not permitted to be exposed.

51. Type MC cable is permitted to be installed in wet locations:

- A) if the insulated conductors are listed for wet locations.
- B) if a corrosion resistant jacket is provided over the metallic sheath.
- C) when both conditions in A and B are met.
- D) if anti-short bushing are used with approved connectors.
- E) in commercial applications only.

52. Civil penalties are generally not assessed for:

- A) making an unsafe electrical installation.
- B) applying the wrong type of permit to a job.
- C) doing an electrical installation without a license.
- D) allowing an unlicensed person to do electrical work.
- E) performing electrical work without a permit.

53. In a dwelling basement at least one receptacle outlet shall be installed:

- A) in addition to those for specific equipment.
- B) and dedicated to fire alarm and security equipment.
- C) within six feet of the entry door.
- D) for a sump pump.
- E) on each full height wall of the basement.

54. Abandoned power and interconnecting cabling installed under raised floors and platforms in information technology rooms:

- A) must be identified with a tag of sufficient durability.
- B) must indicate the future purpose and date.
- C) are required to be marked with the date identified.
- D) all of the above conditions must be met.
- E) must be removed from beneath the floor.

55. Where separate power sources supply portable structures less than 12' apart at a fair:

- A) the equipment grounding conductors of all sources shall be bonded together.
- B) bonding conductors must be sized per table 250.122.
- C) bonding jumpers cannot be smaller than #6.
- D) chances of a difference of potential must be eliminated.
- E) all of the above apply.

56. Listed, straight Liquidtight Flexible Non-metallic Conduit connectors and couplings are permitted:

- A) where subject to physical damage.
- B) to be encased in concrete.
- C) in all Class I, Division II locations.
- D) to support some luminaires.
- E) in all four of these applications.

57. Where installed for the reduction of electromagnetic interference on the grounding circuit, an isolated ground receptacle:

- A) shall be connected to a grounding conductor run with the circuit conductors.
- B) shall be permitted to be isolated from a conductive raceway system.
- C) both A and B apply.
- D) must be bonded to the outlet box.
- E) must be identified with a green dot on the face of the device.

58. In a recreational vehicle park where several pedestals are supplied from a feeder:

- A) a grounding electrode is not required at each pedestal.
- B) 30% of the pedestals must have 50 amp receptacles.
- C) the equipment grounding conductor must be full size.
- D) the grounded conductor can be one size smaller.
- E) voltage drop is seldom considered.

59. When power distribution blocks are mounted within a metal wireway:

- A) bending space at the terminals must be observed.
- B) fill must not exceed 75% of the cross sectional space.
- C) the blocks must be listed for the use.
- D) the blocks shall have no exposed live parts when the installation is complete.
- E) all of the above requirements apply.

60. Emergency generator control circuit conductors between the transfer equipment and the generator;

- A) must be a minimum of #12.
- B) are required to be in a multiwire cable assembly.
- C) can be routed with the feeder conductors if of sufficient size for durability.
- D) shall be kept entirely independent of all other wiring.
- E) must be embedded in not less than 2" of concrete.

61. Defects in electrical installations noted by an electrical inspector:

- A) increase the cost of the permit.
- B) shall be corrected and re-inspection requested within 20 days.
- C) can be corrected by the homeowner.
- D) must be addressed by the signing supervisor.
- E) don't have to be addressed until the final inspection.

62. Electrical product certification is not required for:

- A) products located on the load side of a listed class 2 transformer.
- B) newly developed photo voltaic products.
- C) coaxial cable assemblies.
- D) components of temporary services.
- E) fuel cell systems.

63. A receptacle shall not be grouped with other devices in a ganged enclosure:

- A) unless a permanent listed barrier is provided.
- B) in wet or damp locations.
- C) if the voltage between them exceeds 300 volts.
- D) if the supply originates from a different panelboard.
- E) unless a metal industrial raised cover is provided.

64. Oregon rules have amended the requirements for the use of Ground Fault Circuit Interrupter protection:

- A) in all outdoor locations.
- B) for duplex receptacles in residential outbuildings.
- C) for outlets in commercial kitchens.
- D) to require labeling of exempted receptacles.
- E) all of the above.

65. An accessible receptacle outlet is required on any dwelling unit balcony:

- A) above grade.
- B) that also has a lighting outlet.
- C) with a stairway to the ground.
- D) with a rail above 42 inches.
- E) greater than 20 square feet.

66. Rigid Non-metallic Conduit, type RNC:

- A) is now referred to as HDPE.
- B) refers to a conduit with a non-homogenous foam core.
- C) is not identified for use in sun exposure.
- D) cannot be installed where subject to physical damage.
- E) was divided into two articles, PVC and RTRC.

67. The state building code shall be applicable and uniform throughout the state:

- A) except where municipalities pass special laws.
- B) unless the appropriate board is notified of a change.
- C) except where the building official makes exceptions.
- D) unless the chamber of commerce submits an alternative in writing.
- E) and no local jurisdiction shall enact or enforce conflicting requirements.

68. Raceway assemblies installed on the exterior surfaces of buildings or other structures:

- A) are only allowed to be PVC if schedule 80 is used.
- B) may not include flexible metal conduit.
- C) must be listed for use as a service mast.
- D) must be EMT with listed raintight fittings.
- E) must be listed waterproof and sunlight resistant.

69. New language regarding the installation of luminaires in clothes closets, including storage spaces allows the use of:

- A) fluorescent lighting.
- B) light emitting diode technology.
- C) both A and B when luminaire is identified for this use.
- D) metal halide lighting.
- E) directional floodlighting with quartz halogen lamps.

70. Oregon rules have amended the requirements for the installation of limited energy circuits by requiring that:

- A) signaling circuits comply with articles 300.4 and 300.11.
- B) fire alarm systems comply with articles 300.4 and 300.11.
- C) fiber optic cables and raceways comply with articles 300.4 and 300.11.
- D) communications circuits comply with articles 300.4 and 300.11.
- E) all of the above.

71. Some requirements have been revised for electrical installations on and under floating docks and piers, including:

- A) types of splicing connectors.
- B) locations of enclosures.
- C) listing and identification of electrical products.
- D) all of the above.
- E) pedestals provided for boat hookups.

72. New code language now permits the installation of _____ in elevator pits.

- A) cord and plug connected sump pumps.
- B) non GFCI equipment.
- C) portable lighting.
- D) flexible metal conduit.
- E) two pole switches.

73. Which of the following electrical projects would not require a plans review?

- A) agricultural building for commercial use.
- B) addition of a diesel pump on a fuel dispensing island.
- C) installations of a branch circuit at a dental chair.
- D) a project involving a 150kva transformer.
- E) an additional building of similar construction in an apartment complex.

74. A change in several articles of the National Electrical Code allows short sections of raceways between enclosures to be unsupported as long as:

- A) they don't exceed 30 inches.
- B) listed fittings are used.
- C) concentric knockouts are not encountered.
- D) they are larger than 2 inch trade size.
- E) they are more than 4 feet above the floor.

75. Which of the following electrical installations would not require a permit in the state of Oregon?

- A) an irrigation pivot and associated controls.
- B) installation of a utility owned street light.
- C) replacement of a furnace by a contractor.
- D) a business owner changing out fixtures in his own store.
- E) a homeowner adding a receptacle in his garage.

76. A new requirement for dwelling receptacles to be listed tamper resistant:

- A) takes effect on October 1st, 2008.
- B) is in effect as of April 1st, 2008.
- C) applies to all residential outbuildings.
- D) is not required where receptacle are GFCI protected.
- E) does not apply to AFCI protected circuits.

77. A weatherproof cover that remains weatherproof even when an attachment pug is inserted is required:

- A) only in outdoor locations.
- B) on receptacles in all wet or damp locations.
- C) on all receptacles provided for holiday lighting.
- D) in wet locations indoors or outdoors.
- E) within 6 feet of a utility sink.

78. There is a requirement in Oregon for an electrical license holder to obtain Code Change continuing education:

- A) within one year of the adoption date.
- B) after passing the license exam.
- C) from his employer.
- D) only if the license holder is working.
- E) within 6 months of adoption for inspectors only.

79. Circuit directories are required to clearly identify every branch circuit:

- A) at the panelboard.
- B) at each outlet.
- C) at every permanently installed piece of utilization equipment.
- D) when not in sight of the source.
- E) at the location of roof top equipment.

80. "Immediate family" of a homeowner as it applies to the exemption from licensing requirements, is defined:

- A) in Oregon Revised Statutes.
- B) by the National Electrical Code.
- C) in legislative language.
- D) as all in-laws, step-family, nieces and nephews.
- E) in Oregon Administrative Rule.