WAC/RCW Part 2

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Quiz 1 Sections: WAC 296-46B-230

Question 1: The total thickness of sheetrock required on both sides of a 2-hour firewall is _____.

- 1 inch
- 1 ¼ inch
- 2 inches
- 2 ½ inches

Question 2: Who sets the standards for the height of the center of the service meter?

- The serving utility
- The Department
- The WACs and RCWs
- The Federal Power Administration

Question 3: A service disconnect for a _____ is not required to be counted as one of the six service disconnects allowed in NEC 230.71.

- circuit box
- transient voltage surge suppressor
- switch box
- none of the answers provided

Question 4: A residential patio cover for an overhead conductor span must have at least _____ of minimum clearance.

- 12 inches
- 24 inches
- 36 inches
- 48 inches

Question 5: All overhead drops for service, feeder, or branch circuits exceeding #1 AWG aluminum or #3 AWG copper must be rigid steel galvanized conduit no smaller than _____.
- 1 inch
- 1 ¼ inch
- 2 inches
- 2 ½ inches

Question 6: All overhead drops for service, feeder or branch circuits not exceeding #1 AWG aluminum or #3 AWG copper, must be rigid steel galvanized conduit no smaller than _____.
- 1 inch
- 1 ¼ inch
- 2 inches
- 2 ½ inches

Question 7: The minimum distance between the lower loop of the entrance service wires and the roof is _____.
- 12 inches
- 16 inches
- 18 inches
- 24 inches

Question 8: _____, non-hardening mastic must be placed between lead-type flashings and the conduit.
- Aluminum
- Plastic
- Copper
- Steel

Question 9: Masts must be braced, secured, and supported in such a manner that no pressure from the attached conductors will be exerted on a roof flashing, meter base, or other enclosures. The minimum size wire for supporting is _____.
- No. 6 Copperweld
- Air craft cable
- Both of the answers provided
- Neither of the answers provided

Question 10: The minimum bracing support tubing to be used is _____.
- ½ inch rigid galvanized metal conduit
- ¾ inch rigid galvanized metal conduit
- 1 inch rigid galvanized metal conduit

Question 11: What is the minimum angle between the mast and the braces or supporting wires?
- 30 degrees
- 45 degrees
- 60 degrees

Question 12: The minimum sized U-bolts that can be used to secure the electrical mast are _____.
- ¼ inch
- 5/16 inch
- 3/8 inch
- ½ inch

Question 13: Utilization of couplings for a mast is permitted only _____ the point where the mast is braced, secured, or supported.
- above
- at
- below

Question 14: Service mast support guys must be installed if the service drop attaches to the mast more than _____ above the roofline.
- 12 inches
- 24 inches
- 32 inches
- 36 inches

Question 15: Service mast support guys must be installed if the service drop is greater than _____ in length from the pole or support.
- 50 feet
- 100 feet
- 200 feet
- 250 feet

Question 16: An Intermediate support mast must be installed in an approved manner with _____ those required for service masts.
- methods identical to
- equal to
- both of the answers provided
- neither of the answers provided

Question 17: Conductors must extend at least _____ from all mastheads to permit connection to the connecting overhead wiring.
- 12 inches
- 18 inches
- 24 inches
- 36 inches

Question 18: In multi-family buildings with more than one service disconnect at different locations, a permanent identification plate must be placed at each service disconnect location and must identify _____.
- all other service disconnect locations in or on the building
- the area or units served by each disconnect
- the total number of service disconnecting means on the building
- the area or units served
- all of the answers provided

Question 19: A permanent identification plate _____ each feeder disconnecting means identifying the area.
- must be place at
- is not required to be placed at
- must be placed only after installation at
- not adopted in the state of Washington

Question 20: If the service conductors have a lesser ampacity than the overcurrent protection or the equipment rated that they terminate in or on, an identification plate showing the ampacity of the conductors _____ on the service equipment.
- must be installed
- is not required to be installed
- only after installation is required to be installed
- not adopted in the state of Washington

Question 21: The installation of service conductors not exceeding 600 volts, nominal, within a building or structure is limited to the following methods EXCEPT _____.
- galvanized or aluminum rigid metal conduit
- galvanized intermediate metal conduit
- EMT
- rigid non-metallic conduit

Question 22: EMT (Electrical metallic tubing) must not be installed as the wiring method for service entrance conductors inside a _____.
- car
- train
- building
- park

Question 23: The grounded service conductor is permitted to be identified with a _____ or with one or more yellow strips.
- yellow jacket
- blue jacket
- green jacket
- black jacket

Question 24: Disconnects, sub-panels and similar equipment are not allowed in _____.
- bathrooms
- clothes closets
- shower rooms
- all of the answers provided

Question 25: Which is NOT required of indoor service equipment and sub-panel equipment?
- to be located with the center of the panel between 4’6” and 5’ 6” from the datum plane of the floor
- to have adequate working space
- to be adequately illuminated

Question 26: Temporary construction service equipment may only be used for what purpose and when is it disconnected?
- Construction purposes
- When the permanent service is connected
- Unless the department grants an extension of time
- All of the answers provided

Question 27: A service disconnecting means located outside must be within _____ and in sight of the building served.
- 10 feet
- 15 feet
- 20 feet
- 30 feet
- 50 feet

Question 28: The building disconnecting means may supply _____ building(s).
- One
- Two
- Three

Question 29: When the service disconnecting means is installed inside the building, it must be located so that the service raceway extends no more than _____ inside the building/structure.
- 10 feet
- 15 feet
- 20 feet
- 30 feet

Question 30: The installation of service conductors exceeding 600 volts, nominal, within a building or structure, must be limited to the following methods EXCEPT _____.
- galvanized rigid metal conduit
- EMT
- Schedule 80 rigid nonmetallic conduit
- metal-clad cable that is exposed for its entire length

Question 31: Grounded service conductors exceeding 600 volts nominal shall ONLY green or white in color.
- True
- False

Quiz 2 Sections: WAC 296-46B-250 – 300

Question 1: An equipment-grounding conductor is not required to be installed with the circuit conductors between buildings.
- True
- False

Question 2: A grounded conductor (i.e., neutral) is not permitted to be used in place of a separate equipment grounding conductor between buildings.
- True
- False

Question 3: Which of the following is NOT an acceptable method for the inspector to verify that the electrode encased in concrete has been correctly installed?
- At a time previous to the electrical inspection, another inspector verified that the electrode was correctly installed.
- Accepting the job site superintendent's verbal word that the electrode was correctly installed.
- measuring the resistance of the grounding electrode attached to 20 feet of re-bar.
- All of the answers above are acceptable.

Question 4: The minimum distance apart that rods can be installed from each other in cases of services feeding adjacent but structurally separate buildings is _____.
- 2 feet
- 6 feet
- 10 feet
- 12 feet

Question 5: _____ used in nonmetallic plumbing systems are not required to be bonded to the electrical system unless required by an electrical equipment manufacturer's instructions.
- Metallic stubs
- Valves
- Both of the answers provided
- Neither of the answers provided

Question 6: _____ are not required to be bonded together if the inspector can determine the lines are mechanically and electrically joined by one or more metallic mixing valves.
- Hot water plumbing lines
- Cold water plumbing lines
- Both of the answers provided
- Neither of the answers provided

Question 7: The neutral of a solidly grounded neutral system may be grounded at more than one point, at the following locations EXCEPT _____.
- services
- underground circuits where the neutral is exposed
- overhead circuits installed outdoors
- in new single-phase (i.e., single phase to ground) installations

Question 8: NEC power limited, Class 2, and Class 3 cables must be secured in compliance with which NEC reference article?
- NEC 334.30
- NEC 324.17
- NEC 334.34

Question 9: Generally, cables for Class 2 power limited circuits must be installed using the same methods required in Chapter 3 – Wiring Methods.
- True
- False

Question 10: Telecommunication cables must be secured in a manner that will not cause damage to the cables and at intervals not exceeding _____.
- 3 feet
- 5 feet
- 8 feet
- 12 feet

Question 11: Cables are considered adequately supported when run through _____ in building structural elements or other supporting elements.
- holes
- walls
- raceways
- supporting beams

Question 12: Clamps or fittings are not required where telecommunications cables enter _____.
- rooms
- boxes
- buildings
- houses

Question 13: Optical fiber cables located in suspended ceilings must be secured in a manner that will not cause damage to the cables and at intervals not exceeding _____.
- 3 feet
- 5 feet
- 8 feet
- 10 feet
- 12 feet

Question 14: The maximum sized cable that can be supported by wires in a suspended ceiling is _____.
- ½ inch trade size
- ¾ inch trade size
- 1 inch trade size

Question 15: The maximum number of cables that can be supported by a suspended ceiling wire is _____.
- 1
- 2
- 3
- 4
- 5

Question 16: The suspended ceiling support for the two cable limitation does not apply to _____.
- 120 volt, No.14, + ground cable
- 12 gauge Romex
- Class 2 cables or Class 3 cables

Question 17: The minimum sized support wire in a suspended ceiling is _____.
- #10 AWG
- #12 AWG
- #14 AWG
- #16 AWG

Question 18: Support wires must be securely fastened to the structural ceiling and the suspended ceiling support frame.
- True
- False

Question 19: Telecommunications cables passing through ceiling area with _____ inside of ceiling area.
- no terminations
- no devices
- both of the answers provided
- neither of the answers provided

Question 20: Which of the following is NOT a requirement for cables placed in a raceway?
- That the cable is appropriate for the environment
- That the percentage fill does not exceed that allowed in NEC Chapter 9, Table 1
- That the cables are multi-stranded

Quiz 3 Sections: WAC 296-46B-314 – 334

Question 1: In vehicular traffic areas the open bottom junction boxes must be rated for not less than _____ loading.
- None required
- H-10
- H-15
- H-20
- No open bottom junction boxes are allowed in vehicular traffic areas.

Question 2: In vehicular traffic areas the open bottom junction boxes must be provided with a bolted, hinged, or slide-on lid embossed with the identification _____.
- “JUNCTION BOX”
- “AUTHORIZED PERSONNEL ONLY”
- “ELECTRICAL”
- “NO ADMITTANCE”
- No marking required

Question 3: In incidental vehicular traffic areas (e.g., parks, sports fields, sidewalks, grass lawns, etc.) the open bottom junction boxes must be rated not less than _____.
- None required
- H-10 loading
- H-15 loading
- H-20 loading
- Boxes are not rated.

Question 4: For the above application, the identification word embossed on the lid shall be _____.
- "JUNCTION BOX"
- "AUTHORIZED PERSONNEL ONLY"
- "ELECTRIC"
- "DANGER – HIGH VOLTAGE"
- None required

Question 5: In non-vehicular traffic areas (e.g., flower beds, patio decks, etc.) the open bottom junction box must be rated not less than _____.
- None required
- H-10
- H-15
- H-20
- H-30

Question 6: In non-vehicular traffic areas (e.g., flower beds, patio decks, etc.) the open bottom junction box must be designed for the purpose and must be provided with a lid embossed with the identification _____.
- "JUNCTION BOX"
- "AUTHORIZED PERSONNEL ONLY"
- "ELECTRIC"
- "DANGER – HIGH VOLTAGE"
- None required

Question 7: All conductors that are installed in approved electrical raceways (pull junction boxes) shall enter _____ into the enclosure.
- from either side
- vertically from the bottom
- from the back only
- no restrictions

Question 8: These raceways must be fitted with a _____.
- bushing
- terminal fitting
- seal
- any of the answers provided
- none of the answers provided

Question 9: The raceway shall project above the surface material not less than _____.
- 1 inch
- 2 inches
- 3 inches
- 6 inches

Question 10: The bottom surface material must be pea gravel or sand a minimum thickness of _____ or more if required by the box manufacturer.
- 1 inch
- 2 inches
- 3 inches
- 6 inches

Question 11: Placing sheet rock over a "J" box containing electrical wiring is permissible by code.
- True
- False

Question 12: "Romex" (Type NM) may be legally installed in which of the following places?
- Duplex residence
- Fourplex apartment building
- Subway Sandwich Shop
- Dental Office
- Community church building

Question 13: Romex is not allowed in a structure more than _____ floors above grade.
- One
- Two
- Three
- Four
- Five

Question 14: The first floor of a structure will be the lowest floor that has _____ or more of the exterior wall surface level with or above finished exterior grade.
- 33%
- 49%
- 50%
- 51%
- 66%

Quiz 4 Sections: WAC 296-46B-358 – 450

Question 1: EMT (electrical metallic tubing) may be installed in direct contact with the earth or in concrete on or below grade.
- True
- False

Question 2: Knob and tube wiring in an attic has been inspected and found to be in good condition. Is it legal to use loose fill insulation?
- No, remove the old knob and tube wiring and upgrade to current NEC required wires.
- No, loose filled insulation is a fire hazard.
- Yes, since the wiring does not appear to have been overheated.

Question 3: Foam insulation may be used with knob-and-tube wiring if _____.
- wiring has been inspected and authorized
- knob and tube may be allowed if modified
- not legal, never allowed to be used with knob and tube

Question 4: The following overcurrent device(s) may be used with knob & tube wiring:
- a. A penny (US 1 cent)
- b. Circuit breaker
- c. Type S fuse
- d. Inverse current fuses
- e. Choices b and c

Question 5: All luminaires within an enclosed shower area or within _____ of the waterline of a bathtub must be enclosed.
- 4 ft.
- 5 ft.
- 6 ft.
- 6 ft. 6 in.
- No exposed luminaires are permitted in a bathroom.

Question 6: The above luminaires, having exposed metal parts that are grounded, must be protected by a _____.
- Circuit breaker
- Fuse
- Inverse current fuse
- Ground fault circuit interrupter
- No special additional protection is necessary.

Question 7: A flexible cord and connection to a suspended pendant box must utilize a/an _____ threaded hub.
- Integral
- External
- Unattached
- ASME
- UPC

Question 8: The length of the cord for a suspended pendant drop from a permanently installed junction box to a suitable tension take-up device must not exceed _____.
- 4 feet
- 6 feet
- 8 feet
- 10 feet
- 12 feet

Question 9: Strain relief(s) on the flexible cord are located _____.
- on the control end
- on the equipment end
- on both ends
- not required by code

Question 10: The flexible cord must be a minimum _____ copper.
- #16 AWG
- #14 AWG
- #12 AWG
- #10 AWG
- #8 AWG

Question 11: Water heaters with a rated circuit load in excess of 3,500 watts at 208/ 240 volts, must be provided with branch circuit conductors not smaller than _____.
- #16 AWG
- #14 AWG
- #12 AWG
- #10 AWG
- #8 AWG

Question 12: All motors must be manufactured according to _____ standards for motors.
- NEMA
- ASHREA
- OSHA
- NEC
- NAACP

Question 13: The minimum distance that oil-filled transformers installed outdoors may be from any portion of a building with a combustible surface is _____.
- 2 feet
- 4 feet
- 6 feet
- 8 feet
- 10 feet

Question 14: The minimum distance that oil filled transformers installed outdoors may be from any portion of a building with a non-combustible surface is _____.
- 2 feet
- 4 feet
- 8 feet
- 6 feet
- 12 feet

Question 15: In an area in which a transformer is to be installed next to an uninhabited structure, the transformer may be no closer than _____ from the building/structure.
- 2 feet
- 4 feet
- 6 feet
- 8 feet
- 10 feet

Question 16: The transformer must be outside a line _____.
- extended horizontally from the side of building
- extended vertically from the ends of the eaves or rooflines
- eyeballed and approximated

Question 17: A transformer can be installed no closer than _____ from a building's doors, windows, stairways, or other openings.
- 2 feet
- 4 feet
- 6 feet
- 8 feet
- 10 feet

Question 18: Oil leaking from the transformer should flow _____ the building.
- away from
- towards
- into a puddle next to

Question 19: The number of posts required to adequately guard a transformer is:
- 1
- 2
- 3
- 4
- No number specified

Question 20: Enclosures for total under-ground oil-filled transformers must not be located within _____ of a doorway.
- 4 feet
- 6 feet
- 8 feet
- 10 feet
- 12 feet

Quiz 5 Sections: RCW 19.28.161 – 241

Question 1: Which persons are not permitted to be engaged in doing electrical trade field work?
- Master Journeyman electricians
- Electrical Administrators
- Journeyman electricians
- Apprentices with an electrical training certificate working under supervision of a journeyman
- All of the answers provided

Question 2: How often does an apprentice need to renew his/her training certificate?
- One time only
- Every 6 months
- Annually
- Every two years

Question 3: Supervision of an electrical trainee requires a journeyman at the job site.
- True
- False

Question 4: What is the maximum percentage of each working day that a journeyman does not have to be present on the job site?
- 0%
- 25%
- 33%
- 50%

Question 5: A non-certified electrician may work without direct supervision during the last _____ of meeting the practical experience requirements.
- 4 months
- 6 months
- 10 months
- 12 months

Question 6: If the ratio of certified to non-certified individuals on a job site becomes one certified electrician to 3 or 4 non-certified individuals, the certified electrician must _____.
- assist the non-certified individuals by supervision, instruction and directly engaging in electrical installation
- be on the same job site with the non-certified individuals for a minimum of 75% of each working day
- accurately verify and attest to the electrical trainee hours worked by electrical trainees on behalf of the electrical contractor

Question 7: For which reason may the department review an electrical contractor's reported trainee hours?
- Excessive hours were reported.
- Hours averaged 40 per week.
- Hours were less than 40 per week.
- No over time hours were reported.

Question 8: What is the minimum number of hours you must have in fieldwork before taking the 01 Journeyman License test?
- 1000
- 2000
- 4000
- 8000

Question 9: If you successfully completed an apprenticeship program approved under chapter 49.04 RCW for the electrical construction trade, are you permitted to take the Journeyman License test?
- Yes
- No

Question 10: What is the minimum number of hours of fieldwork you must have completed before taking a specialty electrician test?
- 1000
- 2000
- 4000
- 8000
- No requirement

Question 11: How many times can a person take the competency examination?
- 1 time
- 5 times
- 11 times
- Unlimited

Question 12: How many annual hours of continuing education classes are required?
- 4
- 8
- 12
- 16

Question 13: What is the penalty for a late renewal of the certificate of competency?
- No penalty
- Twice the normal fee
- You lose your right hand.
- Start again as entry-level apprentice.

Question 14: If a holder of a temporary permit fails the exam, an extension of _____ may be issued.
- 20 days
- 30 days
- 60 days
- 90 days
- 120 days

Question 15: Which is a valid reason for the revocation of an electrical certificate?
- Misrepresenting work hours to meet field experience time to qualify to take the test.
- Scoring 100% on the exam
- Challenging an electrical inspector regarding to NEC rules and regulations
- Safe but sloppy work

Question 16: Can the department suspend the license of a person who is not in compliance with a child support order?
- Yes
- No