

Electricity CDE Test Bank

1. The purpose of the NEC® is to ensure the _____, uniform installation of electrical wiring.

- a. Economical
- b. Fast
- c. Safe
- d. Best

ANS: C

2. The NEC® is revised every _____ years.

- a. 2
- b. 3
- c. 4
- d. 6

ANS: B

3. The first safety standards for electrical installations were established in the late 1800s by the city of _____.

- a. Chicago
- b. Boston
- c. New York
- d. Atlanta

ANS: C

4. The NEC® establishes the _____ requirements for electrical installations.

- a. Minimum
- b. Maximum
- c. National
- d. Local

ANS: A

5. The _____ is the final authority in interpreting the NEC®.

- a. State fire marshal
- b. Local building inspector
- c. National Safety Council
- d. Electrical Contractor

ANS: B

6. Two research and testing organizations that determine the safety and quality of electrical products are the American National Standards Institute and the _____.

- a. National Product Safety Council
- b. Underwriters Laboratories
- c. National Electric Safety Council
- d. International Brotherhood of Electrical Workers

ANS: B

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7. The CSA tests and certifies electrical products and equipment sold in _____.
- California
 - Colorado
 - Canada
 - North and South Carolina

ANS: C

8. After electricity has been generated at the power plant, step-up transformers are used to _____ as it is transmitted to the consumer.
- Decrease the voltage
 - Increase the amperage
 - Increase the wattage
 - Increase the voltage

ANS: D

9. When beginning a new wiring installation, the electrician most often works from _____.
- A picture
 - Verbal instructions
 - A wiring plan
 - A floor plan

ANS: C

10. Receptacle outlets and switches for lighting, appliances, and other types of electrical equipment installed in a residence are indicated on the electrical contractors wiring plan by _____.
- Standard electrical symbols
 - The homeowner
 - The electrical installer
 - The building inspector

ANS: A

11. For added protection against electric shock, power tools should always be double insulated and _____ rated.
- NEC®
 - IBEW
 - UL
 - OSHA

ANS: C

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12. Today, in addition to wood frame construction methods, _____ framing is also used in both residential and commercial framing.

- a. Fiberglass
- b. Metal
- c. Aluminum
- d. Asbestos

ANS: C

13. A device used for testing circuits is called a _____.

- a. Ground Fault Circuit Interrupter
- b. Volt-Ohm Meter
- c. Grounding Conductor
- d. Service Entrance Panel

ANS: B

14. A circuit is defined as _____ or more conductors through which electric current flows from a power source to one or more outlets.

- a. One
- b. Two
- c. Three
- d. Four

ANS: B

15. After the flow of electrical current passes through the electric meter, it goes directly to the _____.

- a. Lighting Circuits
- b. Receptacles
- c. Service Entrance Panel
- d. Feeder Circuit Breaker

ANS: C

16. The pressure at which electricity is transmitted through a conductor is called _____.

- a. Flow
- b. Amperage
- c. Voltage
- d. Wattage

ANS: C

17. The current-carrying capacity of a conductor is called _____.

- a. Conductivity
- b. Amperage
- c. Voltage
- d. Rating

ANS: B

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18. General purpose branch circuits typically require No. _____ size wire and/or No. _____ size wire.

- a. 14/18
- b. 12/16
- c. 10/12
- d. 14/12

ANS: D

19. The NEC® requires small appliance circuits to be installed using a minimum of a No. _____ size conductor.

- a. 14
- b. 10
- c. 18
- d. 12

ANS: D

20. Small appliance circuits must be protected at the service entrance panel or subpanel by a _____-ampere overcurrent protection device.

- a. 15
- b. 20
- c. 30
- d. 50

ANS: B

21. In a simple two-conductor-with-ground cable, the insulation color of the ungrounded circuit conductor is typically _____ in color.

- a. Red
- b. Green
- c. White
- d. Black

ANS: D

22. The grounded circuit conductor is typically _____ in color.

- a. Red
- b. Green
- c. White
- d. Black

ANS: C

23. On a typical electrical wiring plan solid lines usually represent _____.

- a. Circuit run
- b. Switch loop
- c. Overhead feeder circuit
- d. 30-ampere circuit

ANS: A

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24. A service entrance panel should always be located near the _____.
- a. Storage area
 - b. Middle of the residence
 - c. Kitchen
 - d. Service entrance

ANS: D

25. Service entrance panels and subpanels should be installed approximately _____ inches above the floor level.
- a. 36 to 42
 - b. 30 to 36
 - c. 40 to 48
 - d. None of the above

ANS: C

26. The NEC® requires that wall receptacles must be spaced so that no point on a wall is more than _____ feet from a receptacle.
- a. 3
 - b. 4
 - c. 6
 - d. 12

ANS: C

27. Kitchen countertop receptacles must be located at a maximum of _____ inches above the countertop.
- a. 12
 - b. 16
 - c. 18
 - d. None of the above

ANS: C

28. Surface mounted incandescent lighting located in a closet must be installed at least _____ inches from the storage shelving.
- a. 12
 - b. 3
 - c. 6
 - d. 15

ANS: A

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29. Recessed or surface mounted fluorescent lighting located in a closet must be installed at least _____ inches from the storage shelving.

- a. 14
- b. 12
- c. 6
- d. 24

ANS: C

30. The total square foot area of a 32 ft. x 40 ft. residence measures _____ square feet.

- a. 1500
- b. 1250
- c. 1280
- d. 1225

ANS: C

31. An accepted general rule for calculating the required number of general purpose circuits states that at least one circuit should be installed for every _____ square feet of floor space.

- a. 375
- b. 500
- c. 750
- d. 1000

ANS: B

32. Individual branch circuits connected directly from the appliance or equipment to the service entrance panel are said to be _____.

- a. Flush mounted
- b. Grounded
- c. Surface mounted
- d. Hardwired

ANS: D

33. All electrical connections must be contained in approved _____ or _____ boxes.

- a. Device/Outlet
- b. Fiberglass/Plastic
- c. Aluminum/Copper
- d. Switch/Junction

ANS: A

34. Electrical boxes that accommodate more than one switch or device are called _____ boxes.

- a. Large
- b. Single
- c. Double
- d. Gang

ANS: D

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35. The most common size for single gang boxes used in residential electrical installations is _____ inches.

- a. 4 x 3
- b. 2 x 3
- c. 3 x 4
- d. 4 x 4

ANS: B

36. When greater box capacity is needed to make multiple connections or splices, a _____ box is most often used.

- a. Junction
- b. Device
- c. Outlet
- d. Nonmetallic

ANS: A

37. Heavy fixtures such as ceiling fans and heavy lighting fixtures require special _____ -rated boxes.

- a. NEC®
- b. OSHA
- c. UL
- d. IBEW

ANS: C

38. The number of conductors that may be installed in an electrical box is determined by _____.

- a. Conductor size
- b. Box size
- c. Box type
- d. All of the above

ANS: D

39. When the finished wall surface is made of combustible material, the front edge of the device box must be mounted _____ the wall surface.

- a. Flush with
- b. 1/4 inch behind
- c. 1/8 inch behind
- d. 3/8 inch behind

ANS: A

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40. Another name for a jumper grounding conductor is a _____.
- a. Sheep's tongue
 - b. Pigtail
 - c. Grounding clip
 - d. Grounding clamp

ANS: B

41. Electrical cables are inserted into nonmetallic device boxes through _____ located in pairs at the top and bottom of the box.
- a. Sideouts
 - b. Liftouts
 - c. Knockouts
 - d. Pryouts

ANS: D

42. The most common method for installing device boxes in residential wiring is by _____ them to the framework
- a. Gluing
 - b. Screwing
 - c. Nailing
 - d. Clamping

ANS: C

43. Unused knockout openings in outlet and/or junction boxes must be closed using _____.
- a. Electrical tape
 - b. Pryout seals
 - c. Knockout seals
 - d. Electrical caulking

ANS: C

44. Wooden strips or metal hangers can be used to install electrical boxes between _____.
- a. Ceiling surfaces
 - b. Heavy fixtures
 - c. Wall studs
 - d. Wall surfaces

ANS: C

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45. Which of the following is not one of the box fill calculation factors identified by the NEC®?

- a. Conductor fill
- b. Device and equipment fill
- c. Equipment grounding conductor fill
- d. External clamp fill

ANS: D

46. The wire through which electric current travels is called a _____.

- a. Transmitter
- b. Traveler
- c. Conductor
- d. Sheath

ANS: C

47. The best material for conducting electricity is _____ because it is durable, has excellent conducting properties, and has proven relatively free from problems over time.

- a. Brass
- b. Copper
- c. Bronze
- d. Stainless steel

ANS: B

48. Aluminum conductors must be _____ size(s) larger than copper conductors to carry the same electrical load.

- a. one
- b. two
- c. three
- d. None of the above

ANS: A

49. The smallest size copper conductor that the NEC® permits for a residential wiring circuit is _____ AWG.

- a. No.8
- b. No.14
- c. No.12
- d. No.16

ANS: B

50. Conductor sizes are measured using the _____ rating system.

- a. NEC®
- b. NEMA
- c. AWG
- d. CSA

ANS: C

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51. One circular mil is the _____ of a circle with a diameter of _____ inch.

- a. Area/0.01
- b. Volume/0.001
- c. Area/0.001
- d. Volume/0.1

ANS: C

52. The ability of a conductor to carry current at a specific gravity is called its _____.

- a. Voltage
- b. Wattage
- c. Ampacity
- d. Conductivity

ANS: C

53. The cable type most often used in wiring general purpose, small appliance, and individual circuits is _____.

- a. Type USE
- b. Type SE
- c. Type NM
- d. Type NMA

ANS: C

54. The cable type used for supplying current from the entrance head to the service entrance panel is _____.

- a. Type NMS
- b. Type SE
- c. Type SER
- d. Type USE

ANS: B

55. Because of their larger size requirements and greater expense, most service entrance conductors installed in residential wiring are made of _____.

- a. Copper
- b. Copper-clad aluminum
- c. Aluminum
- d. Uninsulated

ANS: C

56. Type SER cable consists of _____ conductors assembled in a _____ configuration.

- a. Three/round
- b. Three/flat
- c. Two/flat
- d. Four/round

ANS: D

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57. Small appliance circuits require No. _____ AWG conductors and a minimum _____ -ampere overload protection device.

- a. 14/15
- b. 14/20
- c. 12/20
- d. 10/20

ANS: C

58. The NEC® requires that no cable bend shall have a radius of less than _____ times the wide diameter of the cable.

- a. Three
- b. Four
- c. Five
- d. Six

ANS: C

59. Holes drilled in 2 x 4 inch studs should not be less than _____ inch from the edge of the stud.

- a. 1-1/2
- b. 1-1/4
- c. 1-3/8
- d. 1

ANS: B

60. The NEC® requires that notches made in 2 x 4 inch studs must be covered by _____ at least 1/16 inch thick to help protect electrical cable from being penetrated by nails.

- a. Steel plates
- b. Snap-in grommets
- c. Metal conduit
- d. Heavy-duty device boxes

ANS: A

61. When using metallic device boxes, electrical cable must be secured to the framing member within _____ inches of the box.

- a. 8
- b. 10
- c. 12
- d. 16

ANS: C

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62. Electrical cable must be secured to the framing member within _____ inches of a nonmetallic box.

- a. 8
- b. 10
- c. 12
- d. 16

ANS: A

63. Electrical cable must be secured at _____ intervals along joists, rafters, and studs for the length of the circuit run.

- a. 3-1/2 ft
- b. 36 inch
- c. 48 inch
- d. 4-1/2 ft

ANS: D

64. When preparing conductors for splicing, _____ inches of insulation must be removed from the end of the conductor.

- a. 5/8 to 3/4
- b. 1/4 to 1/2
- c. 3/8 to 1/2
- d. None of the above

ANS: A

65. After connections have been made using a split-bolt connector, they must be wrapped with_____.

- a. Insulation
- b. Electrician's tape
- c. Masking tape
- d. Teflon

ANS: B

66. Cable is secured in the service entrance panel by _____ installed at the knockout in the cabinet.

- a. Cable connectors
- b. Wire nuts
- c. Plastic zip-ties
- d. Grounding clips

ANS: A

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67. In both metallic and nonmetallic boxes, the cable sheathing must enter the box for approximately _____ inch before it is removed from the conductor.

- a. 1/2
- b. 3/8
- c. 1/4
- d. 1/8

ANS: C

68. When installing electrical circuits in a typical wood frame residential structure, circuit runs are typically routed through the _____.

- a. Joists
- b. Rafters
- c. Studs
- d. All of the above

ANS: D

69. Which of the following is not an appropriate solderless connector for a cable or conductor splice?

- a. Crimped connector
- b. Electric staple
- c. Split-bolt connector
- d. Wire nut

ANS: B

70. The most common type of receptacle used in residential installations for general purpose circuits is the _____ receptacle.

- a. Single
- b. Combination receptacle/switch
- c. Duplex receptacle
- d. GFCI

ANS: C

71. The color of the grounding screw terminals on receptacles are required to be _____.

- a. White
- b. Green
- c. Black
- d. Neutral

ANS: B

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72. The national organization that provides the electrical industry with a complete list of general purpose plugs and receptacle configurations for use in residential wiring is the _____.

- a. National Electric Council
- b. National Electric Code
- c. International Brotherhood of Electrical Workers
- d. National Electrical Manufacturing Association

ANS: D

73. Which of the following is not a typical classification of appliances?

- a. Battery-powered
- b. Fixed
- c. Portable
- d. Stationary

ANS: A

74. How do receptacles for individual equipment and large appliances differ from typical duplex receptacles?

- a. Always a different color
- b. Can only be installed by an electrical engineer
- c. Generally intended to serve only one appliance or piece of equipment
- d. Need their own separate electrical source

ANS: C

75. Branch circuits may be installed by using either an approved receptacle and plug assembly, or by _____ an appliance or piece of equipment directly to the overcurrent protection device at the panel board.

- a. Hardwiring
- b. Bonding
- c. Grounding
- d. None of the above

ANS: A

76. A wiring system installer should perform quality work, not only because of professional pride but also because of professional _____.

- a. Liability
- b. Ethics
- c. Courtesy
- d. Inspections

ANS: A

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77. When installing a duplex receptacle in a metallic device box, it must be connected to the equipment ground and to the device box with a _____.

- a. White jumper
- b. Red jumper
- c. Black jumper
- d. Green or bare jumper

ANS: D

78. Creating a split-wired receptacle permits a single duplex receptacle to serve _____ circuits(s).

- a. One
- b. Two
- c. Two or more
- d. General purpose and small appliance

ANS: B

79. Split-wired receptacle may be connected to the overcurrent protection device by using _____ two-conductor cable(s) with ground or by using _____ three-conductor cable(s) with ground.

- a. One/One
- b. Two/One
- c. One/Two
- d. None of the above

ANS: B

80. A split-wired receptacle circuit must always be protected at the service panel by a _____ volt overcurrent protection device (circuit breaker).

- a. 120
- b. 240
- c. 120/240
- d. 100

ANS: C

81. The equipment grounding conductor for clothes dryers is required to be _____.

- a. Bare
- b. White
- c. Green
- d. Red

ANS: C

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82. Water heater circuits are required to have a disconnect located within _____ feet of the heater if not visible from the service entrance panel.

- a. 10
- b. 25
- c. 50
- d. 15

ANS: C

83. Clothes washers must be installed _____ feet of the receptacle.

- a. 3
- b. 4
- c. 6
- d. 10

ANS: C

84. Creating a split-wired receptacle permits a single duplex receptacle to serve _____ circuit(s).

- a. One
- b. Two
- c. Three or more
- d. Both general purpose and small appliance

ANS: B

85. The recommended conductor size for a dishwasher and/or garbage disposal circuit is _____ AWG.

- a. 8-3
- b. 10-2
- c. 12-2
- d. 12-3

ANS: C

86. The type of switch most commonly used in residential lighting circuits is the _____.

- a. Single-pole
- b. Double-pole
- c. Combination
- d. Three-way

ANS: A

87. A typical single-pole switch consists of _____ external terminals.

- a. Two
- b. Three
- c. Four
- d. None of the above

ANS: A

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88. A switch style used for gradually controlling light intensity up or down is the _____ switch.

- a. Combination
- b. Rocker
- c. Dimmer
- d. Push button

ANS: C

89. Double-pole switches must always contain _____ terminal connections and are used for 240-volt switched circuits.

- a. Two
- b. Three
- c. Four
- d. Five

ANS: C

90. Whenever possible, the black conductor should always be connected to the _____ terminal on the switch.

- a. Load
- b. Line
- c. Grounding
- d. Top

ANS: A

91. If a switch installed in a non-metallic device box is not equipped with an equipment grounding conductor, the power source equipment grounding conductor must be _____.

- a. Removed
- b. Folded in the box
- c. Attached to the box with grounding clip
- d. None of the above

ANS: B

92. When the power source cable originates from an outlet box other than the box containing the switch, the cable connection bringing power to the switch is commonly called a _____.

- a. Switch length
- b. Switch leg
- c. Power source loop
- d. Switch loop

ANS: B

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93. Which of the following is not one of the four basic types of switches?
- a. Double-pole
 - b. Five-way
 - c. Four-way
 - d. Single-pole

ANS: B

94. Unlike other common switch types, _____ switches do not have screw terminals; they are manufactured with conductors already installed.

- a. Dimmer
- b. Double-pole
- c. Single-pole
- d. Switch and receptacle combination

ANS: A

95. Three-way switches permit lighting to be controlled from _____ separate locations.

- a. Three
- b. Two
- c. Three or more
- d. Four

ANS: B

96. The terminals on a three-way switch are also commonly known as _____ terminals.

- a. Circuit
- b. Triple
- c. Traveler
- d. Common

ANS: C

97. The common terminal on a three-way switch is normally identified by its _____ color.

- a. Bright silver
- b. Dark green
- c. Dark
- d. Red

ANS: C

98. . Four-way switches may only be used in combination with _____ switches.

- a. Double-pole
- b. Single-pole
- c. Combination
- d. Three-way

ANS: D

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99. Four-way switches contain ____ common terminal(s).
- a. Two
 - b. Three
 - c. One
 - d. None of the above.

ANS: D

100. Four-way switches always contain ____ pair(s) of made contacts.
- a. One
 - b. Two
 - c. Three
 - d. Zero

ANS: B

101. Four-way switches must always contain ____ dark-colored traveler terminal(s) and ____ light-colored traveler terminal(s).
- a. One/two
 - b. Two/one
 - c. Two/two
 - d. One /three

ANS: C

102. The maximum number of circuit breaker positions permitted by the NEC® in a single service entrance panel is ____.
- a. 48
 - b. 42
 - c. 36
 - d. 40

ANS: B

103. Service entrance panels and subpanels are selected based on the ____ requirements of the wiring system.
- a. Ampacity
 - b. Voltage
 - c. Overcurrent protection
 - d. Physical size

ANS: A

104. Type SER cable consists of ____ conductors combined in a round configuration.
- a. Two
 - b. Three
 - c. Four
 - d. None of the above

ANS: C

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105. A ____ bonds the equipment grounding bus bar to the service entrance cabinet.
- a. Bonding strap
 - b. Bonding jumper
 - c. Grounding electrode conductor
 - d. Grounding clip

ANS: A

106. Circuit breakers are designed to carry up to ____ percent of their ampere rating on a continuous basis.

- a. 50
- b. 60
- c. 70
- d. 80

ANS: D

107. The positions on the bus bar(s) in the service entrance panel and subpanel to which the circuit breakers are connected are commonly called ____.

- a. Stabs
- b. Clips
- c. Connectors
- d. Retainers

ANS: A

108. When using the optional method to determine load calculations and select the correct size of service entrance panels and subpanels, all calculations should be rated in ____.

- a. Volt-amperes
- b. Watts
- c. Volts
- d. Amperes

ANS: A

109. When using the optional method of calculation, lighting loads are based on a demand factor of ____ VA (watts) per square foot of space in the dwelling.

- a. 2
- b. 3
- c. 15
- d. 020

ANS: B

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110. Residential service entrance panels are available both in combination with and separate from the _____.

- a. Circuit breakers
- b. Electric meter
- c. Main breaker
- d. Service entrance cable

ANS: B

111. Which type of cable is not typically used for service entrance installations?

- a. SE
- b. SER
- c. UF
- d. USE

ANS: B

112. The NEC® requires that all electrical systems installed in a residential dwelling must be _____ together into a single grounding system.

- a. Bonded
- b. Grounded
- c. Joined
- d. Spliced

ANS: A

113. Creating a planned continuous connection between the earth and the non-current-carrying parts of the wiring system is called _____.

- a. Bonding
- b. Conducting
- c. Connecting
- d. Grounding

ANS: D

114. The equipment grounding bus bar in a subpanel or service entrance panel is required to be bonded to the _____.

- a. Grounding electrode conductor
- b. Main breaker disconnect
- c. Neutral conductor terminal
- d. Service entrance cabinet

ANS: D

115. The NEC® requires that the screw used to attach the bonding strap to the panel board be _____.

- a. Green
- b. Red
- c. Phillips-head
- d. Sheet metal

ANS: A

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116. Which of the following is not a permissible grounding electrode according to the NEC®?
- a. Concrete encased electrodes
 - b. Ground ring
 - c. Metal framework
 - d. Nonmetallic water piping

ANS: D

117. Metal rods or pipes used for supplemental grounding electrodes must be installed at least _____ feet deep in the contact with the earth.

- a. 4
- b. 6
- c. 8
- d. 10

ANS: C

118. When more than one electrode grounding rod is used in a grounding system, they must be bonded together and installed not less than _____ feet apart.

- a. 4
- b. 6
- c. 8
- d. 12

ANS: B

119. The correct size of the grounding conductor depends on _____.

- a. The number of circuits in the system
- b. The size of the service entrance conductors
- c. The square footage in the house or building
- d. The discretion of the power supplier

ANS: B

120. Metallic water pipes must be in direct contact with the earth a minimum of _____ feet to be considered an effective grounding electrode.

- a. 8
- b. 10
- c. 12
- d. 20

ANS: B

121. Which of the following is not a typical way to install a grounding electrode conductor?

- a. From the grounding terminal in the meter to the grounding electrode
- b. From the service entrance neutral at the entrance head to the grounding electrode
- c. From the main breaker in the service entrance panel to the grounding electrode
- d. From the neutral bus in the service entrance panel to the grounding electrode

ANS: C

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122. Turning off the power at the main breaker de-energizes the ____ side of the panel board.
- a. Load
 - b. Line
 - c. Right
 - d. Left

ANS: A

123. Each of the service entrance conductors entering the panel board supplies ____ volts to each side of the bus bar assembly.

- a. 240
- b. 120
- c. 120-240
- d. 480

ANS: B

124. When installing a 120-240-volt circuit breaker in the service entrance panel, the ____ and ____ insulated conductors are connected to the screw terminals on the breaker.

- a. White/Red
- b. White/Black
- c. Black/Red
- d. Red/ Green

ANS: C

125. Remove approximately ____ inch(es) of insulation from the end of each conductor before attempting to install them in the circuit breaker or service panel screw terminals.

- a. 1/4
- b. 1/2
- c. 3/4
- d. 1

ANS: B

126. Which of the following is not a circuit breaker type generally used in a residential service entrance panel or subpanel?

- a. 120-volt (single-pole)
- b. 240-volt (double-pole)
- c. 360-volt (triple-pole)
- d. 120-240-volt

ANS: C

127. GFCIs are designed to ____.

- a. Protect people
- b. Protect circuits
- c. Save electrical energy
- d. Increase amperage

ANS: A

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128. A GFCI can detect as little as ____ of current leakage.
- a. 5 milliamperes
 - b. 15 amperes
 - c. 50 milliamperes
 - d. 5 amperes

ANS: A

129. A ____-milliampere current leak can deliver a fatal shock to humans.
- a. 5
 - b. 50
 - c. 25
 - d. 100

ANS: B

130. Ground faults occur when ____.
- a. A light bulb burns out
 - b. Circuits are wired in series
 - c. Conductors of two different sizes are used in the circuit
 - d. An unintended current path is established between an ungrounded circuit conductor and the ground

ANS: D

132. Most conduit benders are typically marked in ____ increments.
- a. 15°, 30°, 45°, and 90°
 - b. 30°, 45°, 60°, and 90°
 - c. 22°, 30°, 45°, and 60°
 - d. 15°, 22°, 30°, and 45°

ANS: C

133. When installing EMT, conduit runs between fittings, between outlets, or between outlets and fittings must not contain more than the equivalent of ____.
- a. One quarter bend
 - b. Two quarter bends
 - c. Three quarter bends
 - d. Four quarter bends

ANS: D

134. How many quarter bends does it take to equal 360°?
- a. Two
 - b. Three
 - c. Four
 - d. None of the above

ANS: C

Electricity CDE Test Bank

135. The tool typically used for pulling conductors through electrical conduit is _____.
- a. Fish hook
 - b. Fish puller
 - c. Fish-tape
 - d. Conductor tape

ANS: C

136. Installing 120-volt and/or 240-volt circuits in EMT, IMC, or rigid metal conduit requires _____ conductor(s).

- a. One
- b. Two
- c. Three
- d. Four

ANS: B

137. Range and dryer circuits installed in electrical conduit that require both 120-volt and 240-volt circuits must contain _____ conductor(s).

- a. One
- b. Two
- c. Three
- d. Four

ANS: C

138. _____ conduit is the type most often selected for through-the-roof service masts where extra strength is required for supporting heavier loads.

- a. EPVC
- b. EMT
- c. Rigid metal
- d. Flexible metal

ANS: C

139. Metallic conduit not only serves as extra protection for conductors, but may also serve as the _____ conductor.

- a. Grounded
- b. Ungrounded
- c. Equipment grounding
- d. Neutral

ANS: C

140. Connections for liquid-tight conduits may be made only with special _____ connectors.

- a. Nonmetallic
- b. Metallic
- c. Threaded
- d. Brass

ANS: A

Electricity CDE Test Bank

141. Metallic conduit must be rated for use by _____.
a. ETL Testing Laboratories (ETL)
b. National Fire Protection Association (NFPA)
c. Underwriters Laboratories Inc. (UL)
d. Your state or local fire code

ANS: C

142. The term "service drop" refers to _____.
a. The electrical connections from the power source to the dwelling.
b. The conductor that runs from the service entrance panel to the grounding electrode.
c. The meter base connections.
d. The conductors from the meter base to the service entrance panel.

ANS: A

143. Today, most overhead service drop installations are made using ____ cable.
a. NM
b. SER
c. Triplex
d. USE

ANS: C

144. The purpose of installing drip loops at the service entrance is to _____.
a. Reduce the voltage level of the current before it enters the residence
b. Prevent water from entering the service entrance head
c. Allow for expansion and shrinkage of the conductors during hot and cold periods
d. Discourage birds from roosting on the service entrance

ANS: B

145. The required minimum clearance above grade for a service drop cable at the service entrance is ____ feet.
a. 8
b. 10
c. 12
d. 15

ANS: B

146. Agricultural and other truck traffic requires a minimum of ____ feet clearance above grade.
a. 14
b. 16
c. 18
d. 20

ANS: C

Electricity CDE Test Bank

147. Electric meters are typically located on an exterior wall of the dwelling at a height of _____ feet above ground level.

- a. 3 to 6
- b. 5 to 6
- c. 3 to 5
- d. 4 to 5

ANS: D

148. The NEC® requires that underground service laterals must be installed a minimum of _____ feet below grade level.

- a. 2
- b. 3
- c. 4
- d. 5

ANS: A

149. Type _____ cable is required for use in underground service lateral installations.

- a. SER
- b. USE
- c. UF
- d. SE

ANS: B

150. A through-the-roof service drop mast is usually made of 2-inch to 2 1/2-inch diameter _____ conduit.

- a. EPVC
- b. Intermediate metallic conduit
- c. Electrical metallic tubing
- d. Rigid metal

ANS: D

151. Service drops terminating at the service mast that do not cross more than six feet over the overhang portion of the roof are required to have a minimum clearance of _____ inches.

- a. 12
- b. 18
- c. 24
- d. 36

ANS: B

152. Which is not one of the three standard types of service drop installations?

- a. Cable attached to building surface
- b. Cable through-the-roof
- c. Service mast attached to building surface
- d. Service mast through-the-roof

ANS: B

Electricity CDE Test Bank

153. A fixture mounted directly to an outlet box is permitted in each of these locations except _____.

- a. Attics
- b. Crawl spaces
- c. Clothes closets
- d. Storage areas

ANS: C

154. Which of the following is not a key factor to consider when estimating electrical costs using the outlet cost averaging method?

- a. Ceiling height, design, and other characteristics
- b. Conductor length between outlets
- c. Device and circuit conductor ratings
- d. Separate costs of 120-volt, 240-volt, and 120-240-volt outlets

ANS: D

155. Which of the following statements should not be included in any electrical wiring estimate?

- a. The installation must comply with the NEC®, state, and local codes.
- b. Only UL-listed materials will be used.
- c. Homeowner approval is not required for fixture types and prices.
- d. Work and materials are warranted for one year.

ANS: C

156. Using the outlet cost averaging method, the cost of a wiring plan containing 65 outlets at an estimated cost per outlet of \$33.50 will total _____.

- a. \$2,174.25
- b. \$2,177.50
- c. \$2,211.00
- d. None of the above

ANS: B

157. You are to add 25% for overhead and profit margin costs to an electrical cost estimate that totals \$2750.00. The total estimate, including the 25% for overhead and profit, will total _____.

- a. \$3,355.00
- b. \$3,437.50
- c. \$3,443.75
- d. None of the above

ANS: B

Electricity CDE Test Bank

158. Sixty 120-volt outlets on a wiring plan cost estimate total \$1,300.00. What is the approximate cost for each outlet?

- a. \$21.66
- b. \$20.00
- c. \$22.50
- d. None of the above

ANS: A

159. Adding a _____ in the area where the circuits are installed can reduce the extra cost incurred by long circuit runs from the service entrance panel.

- a. Lighting fixture
- b. Receptacle outlet
- c. SEP
- d. Subpanel

ANS: B

160. Which statement best defines "electricity"?

- a. Resistance of protons conducted from one atom to another.
- b. Flow of positively-charged electrons to positively-charged atoms.
- c. Flow of electrons from one atom to another.
- d. Flow of electrons on tungsten or nichrome conductors.

ANS: C

161. Which of these best describes the theoretical formula for calculating the amount of electric current used by equipment?

- a. Volts x amperes = kilowatts.
- b. Volts x amperes = watts.
- c. Volts / amperes = watts.
- d. Amperes / volts = watts.

ANS: B

162. The electron exchange between positively- and negatively-charged atoms in clouds and air masses causes _____.

- a. Rain.
- b. Hail.
- c. Tornadoes.
- d. Lightning

ANS: D

163. Today, electric utilities distribute power produced by _____.

- a. Thomas A. Edison.
- b. Generators.
- c. Transmitters.
- d. Conductors.

ANS: B

Electricity CDE Test Bank

164. An electrical circuit is _____.
- a. Always dangerous. Turn it off immediately.
 - b. An uninterrupted path of electrons along a conductor.
 - c. A flow of volts toward watts of current.
 - d. A piece of an electrical outlet in the wall.

ANS: B

165. What happens when the switch of an electrical lamp, appliance, or other piece of equipment is switched off?

- a. The circuit of electricity is stopped.
- b. The flow of electrons stops.
- c. The power to the product ceases until the switch is turned on.
- d. All of the above.

ANS: D

166. Each electrical circuit has _____.

- a. A delivery (hot or live) wire.
- b. A return wire.
- c. A short circuit wire.
- d. Both "a" and "b".

ANS: D

167. The most common electrical conducting material used for wiring in the US is _____.

- a. Silver.
- b. Copper.
- c. Aluminum.
- d. Steel.

ANS: B

168. Resistance to the flow of electrons along a conductor can cause _____.

- a. Heat and light.
- b. Heat, but not light.
- c. Light, but not heat.
- d. Heat, light, and a hum from vibration.

ANS: A

169. In making the trip from the electricity generating facility through a lamp and back to the facility, _____ of the electrons are destroyed or used up.

- a. All
- b. Nearly all
- c. Some
- d. None

ANS: D

Electricity CDE Test Bank

170. Which statement best defines an arc?
- a. A multicolored type of wiring invented by Thomas Edison.
 - b. Static electricity which influences a bullet's trajectory and which contributed to the death of Abraham Lincoln.
 - c. Static electricity caused when a metal table knife is used to cut food.
 - d. Electricity leaping from a receptacle to a nearby plug of an appliance that is "on".

ANS: D

171. Which statement best defines amperes?
- a. A condition of the skin resulting from electrical shock; similar to hives.
 - b. An award given annually to the singer whose electrical concert sound system generates the most decibels.
 - c. An alternate name for NASA's electrical vehicular activity on other planets.
 - d. The amount of electrical current blowing over a conductor.

ANS: D

172. Good electrical conductors are _____.
- a. Made from condensates, particulates, and insulates.
 - b. Manufactured by Ross Perot's plant in Buena Vista, Florida.
 - c. Always thin, shiny, and bright.
 - d. Materials that permit electrons to flow readily from one atom to another.

ANS: D

173. Which statement best defines GFCI?
- a. Grease Fires Caused Internally, a statistic tracked by the US Consumer Product Safety Commission.
 - b. Gabriel Fahrenheit Chicago Institute, a hospital for electrical inspectors injured on the job.
 - c. Galileo's First Citing of Illumination, in which he observed electricity flowing through a metallic piece.
 - d. Ground Fault Circuit Interrupter, a device that saves many lives each year.

ANS: D

174. The amount of electric power used each month by a consumer is measured by _____.
- a. A voltage meter.
 - b. An electric energy meter.
 - c. An electric generator.
 - d. A circuit breaker.

ANS: B

Electricity CDE Test Bank

175. Electric energy use in a building depends upon _____.
a. Design and operation of windows and doors.
b. Volume, construction, and arrangement of space.
c. Orientation with seasonal solar and wind conditions.
d. All of the above.

ANS: D

176. Which statement is true of direct current?
a. It is no longer utilized.
b. It has been replaced by more modern technology.
c. It is often abbreviated as "DC" electric current.
d. Both "a" and "b".

ANS: C

177. Most electric appliances, tools, and lights in the US and Canada operate on _____ cycle circuit.
a. 50
b. 60
c. 120
d. 120/240

ANS: B

178. If an American travels to a country using only 240-volt electric current, what would be needed for her to use an American-made electric curling iron?
a. Voltage adapter
b. Electric energy kilowatt meter
c. Energy guide sticker
d. Circuit breaker

ANS: A

179. If an American travels to a country using 50-cycle electric current, what should he remember about using a US-manufactured hair dryer?
a. Allow extra time for the hair dryer to work, as the US standard is 60-cycle current.
b. Use an inexpensive adapter each time you plug in the hair dryer.
c. Using 50-cycle current will permanently damage the hair dryer.
d. Both "a" and "b".

ANS: C

180. Copper is used as an electrical conductor _____.
a. In most buildings and appliances.
b. Because it shares electrons freely.
c. When the preferred conductor, aluminum, is too expensive.
d. Both "a" and "b".

ANS: D

Electricity CDE Test Bank

181. Cloth, wood, plastic, glass, and masonry products that are free of moisture and metal are excellent examples of _____.

- a. Electrical conductors.
- b. Semi-conductors.
- c. Electrical insulators.
- d. Both insulators and conductors.

ANS: C

182. Fluorescent light sources are _____ converters of electricity to light energy, compared to incandescent light sources.

- a. More efficient.
- b. Less efficient.
- c. As effective.
- d. Poor.

ANS: A

183. The amount of light emitted from a 40-watt fluorescent tube is approximately the same as that from a _____ incandescent light.

- a. 40-watt.
- b. 75-watt.
- c. 100-watt.
- d. 200-watt.

ANS: D

184. Which uses the least electricity?

- a. One 4200-watt, 240-volt heater.
- b. One 3500-watt, 240-volt heater.
- c. Two 2500-watt, 120-volt heaters.
- d. Both "a" and "b" would use the same.

ANS: B

185. Which of these practices is most important to follow when unplugging an electrical cord?

- a. Use both hands.
- b. Make sure your hands are dry.
- c. Make sure your hands are slightly moist.
- d. Use no more than two fingers.

ANS: B

186. Which of these is the most effective conductor of electricity?

- a. Aluminum.
- b. Copper.
- c. Iron.
- d. Semi-conductors.

ANS: B

Electricity CDE Test Bank

187. Which of these does not conduct electricity?

- a. Dry plastic.
- b. Soil.
- c. Wet wood.
- d. Semi-conductors.

ANS: A

188. Which statement best describes electrical hazards?

- a. They are not a problem, as long as appliance operators have dry hands.
- b. They have increased in number, as a result of the popularity of second homes and vacation cottages.
- c. They have remained the same in number, because most citizens are careful users of electricity.
- d. They are risks that contribute to increases in death, injury, and property loss.

ANS: D

189. For a user of electrical equipment, what does the acronym UL stand for?

- a. Unqualified Load: a term for excess current transferred over an electrical conductor.
- b. Universal Listings, a directory of manufacturers published by the National Electrical Manufacturers Association.
- c. The University of Louisville in Kentucky.
- d. Underwriters Laboratories, Inc., a not-for-profit organization that sets standards and conducts tests for product safety and certification.

ANS: D

190. What does the ETL Listed certification from Intertek Testing Services indicate on an electrical product?

- a. The product has been tested to ensure conformance with a safety standard.
- b. The manufacturer's factory has been inspected to ensure ongoing product safety compliance.
- c. The product has a five-year safety guarantee.
- d. Both "a" and "b".

ANS: D

191. Which statement is most true about electrical inspectors?

- a. They are required to leap tall buildings with a single bound.
- b. They are employees of government- certified electrical engineering firms.
- c. They have no authority over the wiring of Bill Gates' home.
- d. They check building wiring materials, procedures, and connections relative to standards in the National Electric Code®.

ANS: D

Electricity CDE Test Bank

192. Electricity is able to _____.
a. Generate inspiration for new inventions.
b. Conduct messages of good will and holiday cheer.
c. Light up writers' imaginations.
d. Enhance quality of life for all consumers.

ANS: D

193. During a lightning storm, travelers should stay in their cars because _____.
a. Insulating materials in the car offer some protection.
b. Lightning only strikes large, pointed objects.
c. The car battery's negative terminal is connected to the car's chassis and repels lightning.
d. Moving humans attract lightning more readily than if they sit still.

ANS: A

194. If you need to utilize a 120-volt appliance with a three-prong plug, and the only available wall socket is designed for two-prong plugs, what should you do?
a. Break off the third (round) prong from the appliance plug so that it will fit the socket.
b. Secure a proper extension cord in order to use the appliance at a later time.
c. Secure an adapter plug and connect the appliance to the socket.
d. Remove the face plate of the wall socket so the appliance can be utilized temporarily.

ANS: C

195. Electrical products tested by a testing organization according to safety standards can be marked with which label?
a. Intertek Testing Services (ITS).
b. Underwriters Laboratories (UL).
c. Canadian Standards Association (CSA).
d. All of the above.

ANS: D

196. A GFCI interrupts power within a fraction of a second to prevent a person from experiencing _____.
a. A lethal amount of electricity.
b. Sunburn.
c. Heat stroke.
d. Tinnitus.

ANS: A

197. Which is not one of the five **MAJOR** categories of electric users?
a. Residential.
b. Commercial.
c. Industrial.
d. Governmental.

ANS: D

Electricity CDE Test Bank

198. Which is not one of the five **MAJOR** categories of end uses for electricity to meet a consumer's needs?

- a. Lighting.
- b. Motor-driven equipment.
- c. Space research projects.
- d. Heating.

ANS: C

199. Electric energy _____ type of energy available for the diverse uses made of its capabilities.

- a. Is the least affordable.
- b. Is as affordable as any other.
- c. Is the most affordable.
- d. Was once the most affordable.

ANS: C

200. Electricity's cleanliness at point of use allows it to _____.

- a. Support sanitation.
- b. Contribute to health and wellness.
- c. Support high standards of living.
- d. All of the above.

ANS: D

201. The reliability of electric power distribution is _____ of the electric industry.

- a. A continuing weakness.
- b. A low priority.
- c. A defining characteristic.
- d. A potential future development.

ANS: C

202. Dependable, safe electricity _____ consumers' lifestyles and their standard of living.

- a. Supports.
- b. Actually has little impact upon.
- c. Occasionally can enhance.
- d. Will eventually support.

ANS: A

203. If the supply of an energy resource is diminished after a day of use, this energy form is _____.

- a. Non-renewable.
- b. A fixed-sum resource.
- c. Renewable.
- d. Both "a" and "b".

ANS: D

Electricity CDE Test Bank

204. If the supply of an energy resource is not diminished after a day of use, this energy form is _____.

- a. Non-renewable.
- b. A fixed sum resource.
- c. Renewable.
- d. Known as heavy energy.

ANS: C

205. Which of these are renewable energy forms?

- a. Solar.
- b. Geothermal.
- c. Wind.
- d. All of the above.

ANS: D

206. Which of these are non-renewable energy forms?

- a. Coal.
- b. Petroleum (oil).
- c. Natural gas.
- d. All of the above.

ANS: D

207. The US is primarily dependent upon _____ for energy.

- a. Fossil fuels.
- b. Wood.
- c. Hydroelectric.
- d. Synthetic fuels.

ANS: A

208. Which of these are fossil fuels?

- a. Coal, oil, and natural gas fuels.
- b. Coal, oil, and hydroelectric fuels.
- c. Uranium and geothermal fuels.
- d. Fissionable fuels.

ANS: A

209. Fossil fuels are a _____ energy form.

- a. Renewable.
- b. Non-renewable.
- c. Solar.
- d. Developing future alternative.

ANS: B

Electricity CDE Test Bank

210. Another term for water-powered generation of electricity is _____.
- a. Fossil fuel.
 - b. Geothermal.
 - c. Hydroelectric.
 - d. Solar.

ANS: C

211. Solid waste is what type of energy form?
- a. Renewable.
 - b. Non-renewable.
 - c. Overused in the US compared to Europe.
 - d. Fissionable.

ANS: A

212. Hydroelectric power utilizes a _____ that initiates electron flow.
- a. Transmission line.
 - b. Turbine wheel.
 - c. Circuit breaker.
 - d. Reactor.

ANS: B

213. Which of these are methods for driving mechanical generators of electricity?
- a. Steam power.
 - b. Water power.
 - c. Nuclear fission.
 - d. All of the above.

ANS: D

214. Steam power for electrical generation can be supplied by the following:
- a. Fossil fuels.
 - b. Nuclear fission.
 - c. Geothermal resources.
 - d. All of the above.

ANS: D

215. The most commonly used energy form for producing steam needed to generate electricity is _____.
- a. Oil.
 - b. Natural gas.
 - c. Coal.
 - d. Uranium.

ANS: C

Electricity CDE Test Bank

216. A large percentage of _____ is imported into the US to meet our energy needs.
- Hydroelectric energy.
 - Renewable energy.
 - Coal.
 - Oil.

ANS: D

217. _____ help remove pollutants from smoke stack emissions at electrical generation sites.
- Turbines.
 - Fossil fuels.
 - Reactors.
 - Scrubbers.

ANS: D

218. A common air pollutant created by burning Rocky Mountain coal is _____.
- Carbon monoxide.
 - Chloride.
 - Sulfur dioxide.
 - Nitrogen oxide.

ANS: D

219. A common air pollutant created by burning Appalachian coal is _____.
- Carbon monoxide.
 - Chloride.
 - Sulfur dioxide.
 - Nitrogen oxide.

ANS: C

220. The most common use of oil as a fuel is for _____.
- Electric generation.
 - Transportation.
 - Heating buildings.
 - Manufacturing.

ANS: B

221. Which of the following explains why natural gas is becoming a fuel of choice for some electrical utilities?
- Adaptability to existing technologies.
 - Short license procedures.
 - Small amounts of generation can be added for short-term supply needs.
 - All of the above.

ANS: D

Electricity CDE Test Bank

222. Approximately _____ percent of electricity in the US is generated by gas-fired plants.
- a. 66
 - b. 50
 - c. 33
 - d. 15

ANS: D

223. Splitting uranium atoms yields vast amounts of _____.
- a. Noise.
 - b. Heat
 - c. Sulfur dioxide.
 - d. Nitrogen oxides.

ANS: B

224. _____ energy is gaining popularity as a clean, economical underground source for heating buildings.
- a. Fusion.
 - b. Photovoltaic.
 - c. Geothermal.
 - d. Solid waste.

ANS: C

225. _____ is a promising energy form for the US, because the US leads the world in the amount generated per capita annually.
- a. Fusion.
 - b. Wood.
 - c. Solar heat.
 - d. Solid waste.

ANS: D

226. Although current costs are highly unattractive, fusion is a promising energy form because of the abundance of _____.
- a. Water.
 - b. Air.
 - c. Sunlight.
 - d. Solid waste.

ANS: A

227. Sunlight can be converted to electricity by using _____.
- a. Solar winds.
 - b. Solar cells.
 - c. Fusion.
 - d. Fuel cells.

ANS: B

Electricity CDE Test Bank

229. Consumer use of the _____ energy alternative is not currently well accepted, due to high cost.
- a. Fusion.
 - b. Photovoltaic.
 - c. Biodegradable.
 - d. All of the above.

ANS: D

230. Higher-cost energy alternatives could become more attractive nationally if innovations made them as competitively-priced as _____.

- a. Tidal energy.
- b. Wind power.
- c. Fossil Fuels.
- d. Solar cells.

ANS: C

231. Fossil fuels, geothermal, and nuclear fission produce heat for generating electricity in a _____.

- a. Steam-powered generator.
- b. Biomass converter.
- c. Renewable reactor.
- d. Photovoltaic converter.

ANS: A

232. Reliability of an alternative energy resource over time is a _____ for accepting, developing, and using an alternative.

- a. Federal requirement.
- b. Utility system regulation.
- c. Consumer expectation.
- d. State mandate.

ANS: C

233. Public opinion has _____ regarding safety issues among utilities and development of energy alternatives.

- a. Not supported court action.
- b. Been forgiving.
- c. Been unforgiving.
- d. Generated only moderate support.

ANS: C

Electricity CDE Test Bank

234. Research and innovation enabled the US to convert to energy dependency on fossil fuels by solving _____.

- a. Affordability issues.
- b. Import issues.
- c. Pollution issues.
- d. Safety issues.

ANS: A

235. Before the US converted to fossil fuels, it had been dependent upon _____.

- a. Animal power for work.
- b. Wind power for sailing.
- c. Wood for fuel.
- d. All of the above.

ANS: D

236. Splitting uranium atoms for generation of electricity is called _____.

- a. Fusion.
- b. Nuclear fission.
- c. Photovoltaic generation.
- d. Condensation.

ANS: B

237. Enriched uranium fuel powers _____ for generation of electricity.

- a. Hydroelectric sites.
- b. Steam generators.
- c. Breeder reactors.
- d. Both "b" and "c".

ANS: B

238. Uranium enriched with _____ is considered a source of weapons-grade materials.

- a. Sulfur dioxide.
- b. Nitrogen oxides.
- c. Plutonium.
- d. Oil.

ANS: C

240. Electrical generators typically generate electricity at _____ volts.

- a. About 120.
- b. 120/240.
- c. More than 15,000.
- d. None of the above.

ANS: C

Electricity CDE Test Bank

241. A typical household voltage is _____ volts.
- a. 480.
 - b. 277.
 - c. 120/208.
 - d. 120/240.

ANS: D

242. Typical electric voltages for primary distribution lines are _____ volts.
- a. From 2,300 to 34,000.
 - b. 4,160 and 7,200.
 - c. 12,470 and 14,400.
 - d. All of the above.

ANS: D

243. _____ users of electricity have power delivered and metered to their homes or businesses.
- a. Discount.
 - b. Interutility.
 - c. Retail.
 - d. Standing linkages.

ANS: C

244. _____ are organized by local electric utilities to manage power distribution during potential widespread outages.
- a. Marketing plans.
 - b. Secondary distributors.
 - c. Standby generators.
 - d. Standing plans.

ANS: D

245. The amount of electrical energy used by an appliance primarily depends upon _____.
- a. The voltage measured at the electric meter.
 - b. The amount of humidity in the air.
 - c. The temperature in the room.
 - d. The amount of "on" time for this appliance.

ANS: D

246. The amount of electricity an appliance uses in one month is equal to _____.
- a. Watts / ohms x amperes.
 - b. Watts / volts x amperes.
 - c. Watts / amperes x volts.
 - d. Volts x amperes x hours of use.

ANS: D

Electricity CDE Test Bank

247. The energy required to operate a ten-ampere clothes dryer at 240 voltage for two hours is _____.
- a. 2400 watts.
 - b. 9600 watt hours.
 - c. 4800 watt hours.
 - d. 252 watts.

ANS: C

248. The energy cost for operating a 1500 watt microwave oven for five hours, at a rate of \$.10 per kilowatt hour, is _____.
- a. \$75.00.
 - b. \$7.50.
 - c. \$0.75.
 - d. \$0.075.

ANS: C

250. The energy cost of operating the heating element of a 6000 watt clothes dryer for 10 hours, at a rate of \$.08 per kilowatt hour, is _____.
- a. \$480.00.
 - b. \$48.00.
 - c. \$4.80.
 - d. \$0.48.

ANS: C

251. Which uses the most electricity?
- a. One 4200 watt, 220 volt heater.
 - b. Two 2500 watt, 110 volt heaters.
 - c. Two 2000 watt, 10 ampere heaters.
 - d. One 4200 watt, 20 ampere heater.

ANS: B

252. Consumers are usually billed each month for energy use recorded on the electric meter for _____.
- a. The current month.
 - b. The previous month.
 - c. Usage 40-60 days previous to the bill.
 - d. The upcoming month.

ANS: B

Electricity CDE Test Bank

253. The total watthours used by an appliance during a time period can be divided by _____ to find kilowatt hours.

- a. 10
- b. 100
- c. 1,000
- d. 10,000

ANS: C

254. An electric meter can be labeled with a constant which must be _____ the kilowatt hours it measures in order to determine actual kilowatt hours.

- a. Multiplied by.
- b. Divided by.
- c. Added to.
- d. Subtracted from.

ANS: A

255. Dials on electric meters should always be read _____.

- a. From left to right.
- b. From right to left.
- c. From top to bottom.
- d. From bottom to top.

ANS: B

256. Each power supplier of electricity has _____ that list the cost per kilowatt hour charged for electricity used by consumers.

- a. Cyclometers.
- b. Meter disks.
- c. Rate schedules.
- d. Check meters.

ANS: C

257. _____ electric rates in the US contribute to a high standard of living, but also to waste, lack of responsible energy use by consumers, and higher monthly bills from careless use.

- a. High.
- b. Increasing.
- c. Affordable.
- d. Variable.

ANS: C

Electricity CDE Test Bank

258. Clean air standards regulated by the US Environmental Protection Agency _____ the basic cost of electricity.

- a. Lessen.
- b. Cause spikes and dips in.
- c. Cause extra costs in the hottest and coldest months to be added to.
- d. Contribute to.

ANS: D

259. _____ rates encourage consumers to shift usage, when possible, to hours of the day when power use is lower.

- a. Inverted.
- b. Commercial.
- c. Five-step.
- d. Peak.

ANS: D

260. A consumer's monthly electric bill depends partially on the _____ of appliances and equipment operated.

- a. Number.
- b. Size.
- c. Energy-effective design.
- d. All of the above.

ANS: D

261. A monthly electric bill is influenced by the _____ of one's building or residence.

- a. Design features.
- b. Thermostat setting.
- c. Length of time windows and doors are open.
- d. All of the above.

ANS: D

262. A monthly electric bill is influenced by _____.

- a. A consumer's selection of electrical equipment.
- b. The day of the week the equipment is installed in the home or building.
- c. Whether the bill arrives late in the week.
- d. The distance from the utility company's main office.

ANS: A

263. The amount of a consumer's electric bill is influenced by _____.

- a. The purchase of energy responsible features.
- b. The use of energy responsible features.
- c. The number of users in the building.
- d. All of the above.

ANS: D

Electricity CDE Test Bank

264. A monthly electric bill results from two meter readings about 30 days apart. How is the billing amount determined?

- a. The second reading is subtracted from the first.
- b. The first reading is subtracted from the second.
- c. The first and second readings are averaged.
- d. The higher reading is used.

ANS: B

265. The watts, amperes, and/or volts used by electrical equipment can often be found on the _____.

- a. Top.
- b. Use and Care Manual.
- c. Price tag.
- d. Nameplate.

ANS: D

266. A product's _____ is estimated by multiplying the appliance wattage rating by the hours used per month.

- a. Energy use per month.
- b. Energy efficiency.
- c. Power rating.
- d. Safety.

ANS: A

267. _____ for an appliance is/are determined by dividing watt hours by 1,000.

- a. Voltage.
- b. Amperes.
- c. Kilowatts.
- d. Energy efficiency.

ANS: C

268. A _____ measures the amount of electric power used by a consumer.

- a. Generator.
- b. Meter.
- c. Computer disc.
- d. Stop watch.

ANS: B

269. The more electric energy used by an appliance when it is "on", _____.

- a. The faster the electric meter disc rotates.
- b. The higher the next meter reading.
- c. The more unsafe the switch is.
- d. Both "a" and "b".

ANS: D

Electricity CDE Test Bank

270. The _____ from burning fossil fuels must be carefully handled in order to ensure a desirable quality of life, now and in the future.

- a. Sulfur oxides.
- b. Nitrogen oxides.
- c. Fly ash.
- d. All of the above.

ANS: D

271. Emissions from smoke stacks into surrounding air are controlled by _____.

- a. Cooling towers.
- b. Ash basins.
- c. Scrubbers.
- d. Electric generators.

ANS: C

272. _____ are an integral part of planned electric power generation sites.

- a. Prisons.
- b. Recreational facilities.
- c. Health care centers.
- d. Federal highways.

ANS: B

273. Heat from steam-powered generation plants is cooled so that water can be _____.

- a. Recycled.
- b. Mixed with sulfides.
- c. Diluted.
- d. Dumped in sludge.

ANS: A

274. The temperature of the exit water must be lowered enough to _____.

- a. Meet state and federal standards.
- b. Protect aquatic life in nearby streams.
- c. Register within two degrees of the incoming water temperature.
- d. All of the above.

ANS: D

275. The residue from scrubbers can be treated and sold as _____ for the construction industry.

- a. Sulphur dioxide.
- b. Nitrogen oxides.
- c. Gypsum.
- d. Bricks.

ANS: C

Electricity CDE Test Bank

276. _____ are used to remove ash particles from coal-fired generation plants.
- Cooling towers.
 - Cooling lakes.
 - Scrubbers.
 - Electrostatic precipitators.

ANS: D

277. _____ from electric generation sites that operate on fossil fuel are processed into additives for concrete and roofing materials.

- Sulphur dioxide.
- Nitrogen oxides.
- Ash.
- Excess heat.

ANS: C

278. Two categories of nuclear wastes from electric generation sites are _____.

- Ultra hot and hot.
- Low-level and high-level.
- Ash residue and bottom ash.
- Sulphur oxides.

ANS: B

279. Most scientists agree that radioactive nuclear waste can be safely stored in _____.

- Properly designed underground vaults.
- Capsules ten feet deep.
- Cooling towers.
- Lakes or ponds.

ANS: A

280. Reprocessed used nuclear fuel enables engineers to use the remaining 13% of the uranium in a _____.

- Cooling tower.
- Low-level waste dump.
- Ash basin.
- None of the above.

ANS: D

281. _____ power plants tend to produce low levels of oxygen for fish life in nearby bodies of water.

- Nuclear.
- Hydroelectric.
- Geothermal.
- Coal-fired.

ANS: B

Electricity CDE Test Bank

282. Oxygen is restored to water in a hydroelectric plant's _____.
- a. Generation site.
 - b. Cooling towers.
 - c. Scrubbers.
 - d. Electrostatic precipitators.

ANS: A

283. If a generation site interferes with animal and environmental patterns, but responds to the consequences responsibly and shows growth in nearby recreation industries, then _____ is impacted.

- a. Energy generation cost.
- b. Quality of human life.
- c. The environment.
- d. All of the above.

ANS: D

284. Nuclear power plants account for less than _____ percent of the volume of low-level waste disposed in the US.

- a. 10
- b. 20
- c. 40
- d. 60

ANS: C

285. Electrostatic precipitators remove up to _____ percent of the solid particles emitted from coal-fired electrical generators.

- a. 33
- b. 50
- c. 75
- d. 99

ANS: D