

# ***EXAM***

## ***Course 18129 Continuing Education Course***

### ***Deck Code Changes – Part 1***



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**Materials included**

1. REVIEW MATERIALS
2. EXAM

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# DECK CODE CHANGES – Part 1

## Amendments to the Deck Code

1. A deck that complies with the standards in ch. \_\_\_\_\_, if applicable, shall be considered as complying with sub. (1).
  - a. SPS 325 Appendix B
  - b. SPS 325 Appendix C
  - c. CFR Title 40
  - d. Both a and b
  
2. In the Amendments to the Deck Code, handrail requirements are covered under:
  - a. SPS 321.04
  - b. SPS 321.14
  - c. SPS 321.10
  - d. SPS 321.02
  
3. In the Amendments to the Deck Code, excavation requirements are covered under:
  - a. SPS 321.04
  - b. SPS 321.14
  - c. SPS 321.10
  - d. SPS 321.02
  
4. In the Amendments to the Deck Code, footing requirements are covered under:
  - a. SPS 321.04
  - b. SPS 321.15 (2) (f)
  - c. SPS 321.14
  - d. SPS 321.16
  
5. In the Amendments to the Deck Code, frost penetration requirements are covered under:
  - a. SPS 321.04
  - b. SPS 321.10
  - c. SPS 321.14
  - d. SPS 321.16
  
6. In the Amendments to the Deck Code, decay protection requirements are covered under:
  - a. SPS 321.10
  - b. SPS 321.02
  - c. SPS 321.14
  - d. SPS 321.04

7. In the Amendments to the Deck Code, load requirements are covered under:

- a. SPS 321.04
- b. SPS 321.15 (2) (f)
- c. SPS 321.02
- d. SPS 321.16

8. Along the bottom of door openings that are elevated \_\_\_\_\_.

Note: Flashing placed along the bottom of a door opening that is elevated \_\_\_\_\_ can subsequently accommodate adding a deck outside the door.

- a. below-grade
- b. above-grade
- c. at-grade
- d. Any of the above

## **Chapters SPS 320 to 325 – Appendix B**

### **Section 1: General Requirements**

9. Using the Deck Anatomy graph from the reference materials; the letter D in the Legend represents:

- a. Decking
- b. Drop Beam
- c. Blocking
- d. Ledger Board

10. Using the Deck Anatomy graph from the reference materials; the letter M in the Legend represents:

- a. 2x2 Baluster
- b. 4x4 Rail Post
- c. Post Base Connector
- d. ½” Lag Bolt with Washers

11. Using the Deck Anatomy graph from the reference materials; the letter A in the Legend represents:

- a. Concrete Pier
- b. Drop Beam
- c. Frost Footing
- d. Post Base Connector

12. Using the Deck Anatomy graph from the reference materials; the letter P in the Legend represents:

- a. Rail Top Cap
- b. Guard Rail
- c. Decking
- d. 4x4 Rail Post

13. Using the Deck Anatomy graph from the reference materials; the letter K in the Legend represents:
- Flashing
  - Rim Joist
  - Ledger Board
  - Decking
14. Using the Deck Anatomy graph from the reference materials; the letter B in the Legend represents:
- 4x4 Rail Post
  - Concrete Pier
  - Ledger Board
  - 2x2 Baluster
15. Using the Deck Anatomy graph from the reference materials; the letter O in the Legend represents:
- Blocking
  - Rail Top Cap
  - Guard Rail
  - Decking
16. Using the Deck Anatomy graph from the reference materials; the letter G in the Legend represents:
- Frost Footing
  - Blocking
  - Ledger Board
  - ½ “ Lag Bolt w/ washers
17. Using the Deck Anatomy graph from the reference materials; the letter C in the Legend represents:
- Post Base Connector
  - Flashing
  - Existing House Floor
  - Joist
18. Using the Deck Anatomy graph from the reference materials; the letter N in the Legend represents:
- Guard Rail
  - Rail Top Cap
  - 4x4 Rail Post
  - 2x2 Baluster
19. Using the Deck Anatomy graph from the reference materials; the letter E in the Legend represents:
- Existing House Floor
  - Flashing
  - Ledger Board
  - 1/2 “ Lag Board w/Washer

20. Using the Deck Anatomy graph from the reference materials; the letter L in the Legend represents:
- Joist
  - Rim Joist
  - Blocking
  - Decking
21. Using the Deck Anatomy graph from the reference materials; the letter F in the Legend represents:
- Flashing
  - Existing House Floor
  - Ledger Board
  - ½” Lag Bolt w/Washer
22. Using the Deck Anatomy graph from the reference materials; the letter J in the Legend represents:
- Blocking
  - Rim Joist
  - Post Base Connector
  - Joist
23. Using the Deck Anatomy graph from the reference materials; the letter H in the Legend represents:
- Flashing
  - Existing House Floor
  - Ledger Board
  - Decking
24. Using the Deck Anatomy graph from the reference materials; the letter I in the Legend represents:
- Joist
  - Blocking
  - Ledger Board
  - Drop Beam
25. All lumber, including for decking, must be pressure–preservative–treated and must be either \_\_\_\_\_, hemlock/fir, \_\_\_\_\_ or, \_\_\_\_\_ of grade #2 or better – unless a naturally durable species such as a western red cedar is used.
- douglas fir/larch
  - spruce/pine/fir (SPF),
  - southern pine
  - All of the above
26. Lumber in contact with the ground must be rated as “ground–contact.”
- True
  - False

27. The lumber must be identified by the grade mark of, or certificate of inspection issued by, a professional lumber-grading or inspection bureau or agency ([www.alsc.org](http://www.alsc.org)).

Note: Not all treated lumber is rated for ground contact. See Table C-1 in Appendix C for further information.

- a. True
- b. False

28. Wood-plastic composites must bear a label indicating their performance criteria and compliance with ASTM D7032.

Note: Wood-plastic composites are materials composed of \_\_\_\_\_ or \_\_\_\_\_ that is bound with plastic and used typically as decking and elements of a guard or handrail.

- a. wood fibers
- b. powder
- c. sand
- d. Both a. and b.

29. All fasteners must be \_\_\_\_\_ or \_\_\_\_\_.

- a. galvanized steel
- b. stainless steel
- c. approved for use with preservative-treated lumber
- d. All of the above

30. Note: When using a wood-plastic composite, no caution is needed as all composite members have the same capabilities as their equivalent wood sizes.

- a. True
- b. False

31. Every deck must have an electrical outlet along the perimeter of the deck and \_\_\_\_\_ of the floor in accordance with NEC section 210.52(E)(3).

- a. within 6.5 feet
- b. within 7 feet
- c. within 7.5 feet
- d. within 8 feet

32. A deck constructed in accordance with these standards is not approved for concentrated loads that exceed \_\_\_\_\_ such as from privacy screens, planters, built-in seating, hot tubs, stairs for multiple-level decks, or from snow-drift loads or sliding-snow loads. Engineering analysis is needed for these loads.

- a. 25 pounds per square foot (psf),
- b. 30 pounds per square foot (psf),
- c. 35 pounds per square foot (psf),
- d. 40 pounds per square foot (psf)



33. Nails must be threaded, which includes ring-shanked (annular-grooved) and spiral-grooved.  
Note: A 1/8 inch pilot hole is recommended for all toe-nailing locations.

- a. True
- b. False

34. Hardware, including joist hangers or post anchors, must be galvanized steel with \_\_\_\_\_, or stainless steel. All fasteners that are used with any hardware must be the same material as the hardware. All hardware must be installed in accordance with any instructions from the manufacturer.  
Note: For galvanized steel, look for product lines such as "Zmax," "Triple Zinc," or "Gold Coat."

- a. 1.65 ounces of zinc per square foot (G-15 coating)
- b. 1.75 ounces of zinc per square foot (G-175 coating)
- c. 1.85 ounces of zinc per square foot (G-185 coating)
- d. None of the above

35. Carriage-bolts are not to be substituted where through-bolts are specified, if carriage-bolt washers are installed at the bolt head.  
Note: Carriage-bolt washers have oval holes.

- a. True
- b. False

36. Specifications for fasteners and hardware. All nails must meet the requirements of \_\_\_\_\_.

- a. ASTM A653
- b. ASTM F1667
- c. ASTM B695
- d. ASTM A123

37. Wood screws must meet the requirements of \_\_\_\_\_.

- a. ANSI/ASME B18.6.2
- b. ANSI/ASME B18.6.3
- c. ANSI/ASME B18.6.1
- d. ANSI/ASME B18.2.1

38. Safety glazing at decks shall be in accordance with the safety glazing requirements of the Uniform Dwelling Code (UDC).

- a. True
- b. False

39. Bolts and lag screws must meet the requirements of ANSI/ ASME B18.2.1.

- a. ANSI/ASME B18.2.2
- b. ANSI/ASME B18.2.3
- c. ANSI/ASME B18.6.1
- d. ANSI/ASME B18.2.1

40. Throughout this document, \_\_\_\_\_ bolts and lag screws are specified for various connections.
- 1/2 inch–diameter
  - 3/8 inch–diameter
  - 3/4 inch–diameter
  - 1/4 inch–diameter
41. Note: Galvanized steel is not compatible with stainless steel, which can result in rapid corrosion and structural failure.
- True
  - False
42. Fasteners other than nails and timber rivets may consist of mechanically deposited zinc–coated steel with coating weights in accordance with \_\_\_\_\_, Class 55, minimum.
- ASTM A653
  - ASTM F1667
  - ASTM B695
  - ASTM A123
43. Note: Hardware and fasteners that are beneath a \_\_\_\_\_ which uses salt–water disinfection should be stainless steel, grade 304 or 316.
- hot tub
  - patio pond
  - Both a. and b.
  - None of the above
44. Fasteners to be hot–dipped galvanized must meet the requirements of \_\_\_\_\_, *Standard Specification for Zinc Coating (Hot–Dip) on Iron and Steel Hardware*, Class D for fasteners 3/8” diameter and smaller or Class C for fasteners with diameters over 3/8”.
- ASTM A653
  - ASTM A153
  - ASTM B695
  - ASTM A123
45. Hardware to be hot–dipped prior to fabrication must meet ANSI/ASME B18.2.3, *Standard Specification for Steel Sheet, Zinc–Coated (Galvanized) or Zinc–Iron Alloy–Coated (Galvannealed) by the Hot–Dip Process, Z-C 199 coating*.
- True
  - False
46. Hardware to be cold–dipped galvanized after fabrication must meet ANSI/ASME B18.2.2, *Specification for Zinc (Cold–Dip Galvanized) Coatings on Iron and Steel Products*.
- True
  - False

## **Section 2: Footings, and Post Connections**

47. Construction of footings over utility lines or any service pipe is prohibited.

Note: Call the utility provider before digging.

- a. True
- b. False

48. Concrete must be used and must have a minimum compressive strength of \_\_\_\_\_.

- a. 2,000 pounds per square inch
- b. 3,000 pounds per square inch
- c. 2,000 pounds per square foot
- d. 3,000 pounds per square foot

49. Footings must bear on solid ground below the frost penetration level or at least \_\_\_\_\_ below finished grade, whichever is deeper.

- a. 24 inches
- b. 36 inches
- c. 42 inches
- d. 48 inches

50. Footing size and thickness \_\_\_\_\_ in accordance with Table 1.

- a. can be
- b. should be
- c. must be
- d. None of the above

51. If the edge of a deck footing is closer than 5 feet to an existing house wall, the footing must bear at the same elevation as the existing footing for that wall.

- a. True
- b. False

52. Post anchors must include a \_\_\_\_\_ base plate.

- a. 1-inch-minimum
- b. 1-inch-maximum
- c. ½-inch-minimum
- d. ½-inch-maximum

53. Each post \_\_\_\_\_ bear directly over the \_\_\_\_\_ one-third of a footing.

- a. can / corner
- b. must / middle
- c. can / middle
- d. must / corner

54. Footings must bear on solid ground below the frost penetration level or at least 48 inches below finished grade, whichever is deeper. Bearing onto unprepared fill material, \_\_\_\_\_ is prohibited.

- a. organic soil
- b. alluvial soil
- c. mud
- d. All of the above

55. Footing size and thickness must be in accordance with Table 1. (See \_\_\_\_\_ for determining post spacing and joist length.)

- a. section 4 only
- b. section 5 only
- c. section 6 only
- d. Both sections 4 and 5

56. The bearing capacity of the soil is presumed to be at least \_\_\_\_\_ and must be verified by a building inspector prior to placement of concrete.

- a. 1000 psf
- b. 1500 psf
- c. 1750 psf
- d. 2000 psf

57. Post attachments \_\_\_\_\_ in accordance with Figure 1 except expansion anchors are also permitted – and any instructions from the manufacturer of the anchor must be followed.

- a. can be
- b. are preferred to be
- c. must be
- d. All of the above

58. Joist length is the joist span plus any overhang beyond a beam. See section 5.4.

- a. True
- b. False

59. Post anchors must include a 1–inch–maximum base plate. Steel plates are required.

- a. True
- b. False

60. What does the acronym ‘psf’ stand for?

- a. Point Spread function
- b. Professional Service Firm
- c. Pounds per Square Foot
- d. Pressure Sand Filter

61. Post Spacing is measured from \_\_\_\_\_.

- a. center to center
- b. end to center
- c. edge to edge
- d. inside to inside

62. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 6' joist length with corner footing and 6' post spacing requires a \_\_\_\_\_ inch footing thickness.

- a. 6
- b. 8
- c. 10
- d. 12

63. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 7' joist length with a 4' post spacing requires a \_\_\_\_\_ inch diameter corner footing.

- a. 6
- b. 8
- c. 9
- d. 10

64. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, an 11' joist length with corner footing and 13' post spacing requires a \_\_\_\_\_ inch footing thickness.

- a. 6
- b. 8
- c. 10
- d. 12

65. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, an 8' joist length with 13' post spacing requires a \_\_\_\_\_ inch diameter intermediate footing.

- a. 16
- b. 18
- c. 20
- d. 21

66. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 14' joist length with corner footing and 9' post spacing requires a \_\_\_\_\_ inch footing thickness.

- a. 6
- b. 8
- c. 10
- d. 12

67. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 13' joist length with a 15 inch diameter corner footing requires a \_\_\_\_\_ post spacing.

- a. 5'
- b. 6'
- c. 7'
- d. 8'

68. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 16' joist length with corner footing and 13' post spacing requires a \_\_\_\_\_ inch footing thickness.

- a. 6
- b. 8
- c. 10
- d. 12

69. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 10' joist length with 12' post spacing requires a \_\_\_\_\_ inch diameter corner footing.

- a. 17
- b. 18
- c. 19
- d. 20

70. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 9' joist length with an 18 inch diameter corner footing requires a \_\_\_\_\_ post spacing.

- a. 10'
- b. 11'
- c. 13'
- d. 14'

71. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 12' joist length with 12' post spacing requires a \_\_\_\_\_ inch diameter intermediate footing.

- a. 22
- b. 23
- c. 24
- d. 25

72. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, a 15' joist length with 8' post spacing requires a \_\_\_\_\_ inch diameter corner footing.

- a. 17
- b. 18
- c. 19
- d. 20

73. Using Table 1- Footing Size (In Inches)<sup>1 2 3</sup>, an 9' joist length with 10' post spacing requires a \_\_\_\_\_ inch diameter intermediate footing.

- a. 17
- b. 18
- c. 19
- d. 20

74. All footing sizes are Base \_\_\_\_\_?

- a. diameters<sup>3</sup>
- b. diameters<sup>2</sup>
- c. diameters $\pi$
- d. diameters $\approx$

75. Using Figure 1 – Footings, the 'pre-manufactured post base with cast-in-place post anchor' is represented by the letter \_\_\_\_\_ .

- a. A
- b. B
- c. C
- d. F

76. Using Figure 1 – Footings, the 'frost depth' is represented by the letter \_\_\_\_\_ .

- a. A
- b. B
- c. C
- d. D

77. Using Figure 1 – Footings, the 'thickness' is represented by the letter \_\_\_\_\_ .

- a. G
- b. E
- c. F
- d. D

78. Using Figure 1 – Footings, the 'size per table 4' is represented by the letter \_\_\_\_\_ .

- a. G
- b. E
- c. F
- d. D

79. Using Figure 1 – Footings, the ‘grade’ is represented by the letter \_\_\_\_\_ .

- a. A
- b. B
- c. C
- d. F

80. Using Figure 1 – Footings, the ‘post base’ is represented by the letter \_\_\_\_\_ .

- a. A
- b. B
- c. C
- d. F

81. Using Figure 1 – Footings, the ‘12” diameter concrete stem’ is represented by the letter \_\_\_\_\_.

- a. A
- b. B
- c. C
- d. F

### **Section 3: Posts and Post-to-Beam Connections**

82. Any post supporting a beam splice must be a minimum of \_\_\_\_\_ .

- a. 4” x 4”
- b. 4” x 6”
- c. 6” x 6”
- d. 8” x 8”

83. The post height, measured from the top of the footing to the underside of the beam, must be in accordance with Table 2. Using table 2, the maximum post height for a 4”x 4” would be \_\_\_\_\_.

- a. 6’
- b. 8’
- c. 10’
- d. 14’

84. Toe-nailing of beams to posts is \_\_\_\_\_.

- a. allowed under certain circumstances
- b. prohibited
- c. is always allowed
- d. None of the above



85. Post caps, as shown in \_\_\_\_\_, must be specifically designed for \_\_\_\_\_ and the post size used.

- a. Figure 2
- b. 2 ply beams
- c. 3 ply beams
- d. all of the above

86. It is recommended that cut-ends of posts \_\_\_\_\_ field-treated with a wood preservative.

- a. can be
- b. may be
- c. should be
- d. None of the above

87. The post height, measured from the top of the footing to the underside of the beam, must be in accordance with Table 2. Using table 2 from the review materials, the maximum post height for a 6" x 6" would be \_\_\_\_\_.

- a. 6'
- b. 8'
- c. 10'
- d. 14'

88. Beams must be attached to posts by the appropriate methods shown in \_\_\_\_\_.

- a. Figure 1
- b. Figure 2
- c. Table 1
- d. Table 2

89. Post caps, as shown in Figure 2, must be specifically designed for 2- or 3-ply beams and the post size used. Attachment must be in accordance with the \_\_\_\_\_.

- a. manufacturer's instructions
- b. homeowners specifications
- c. condo association requirements
- d. All of the above

90. The post height, measured from the \_\_\_\_\_, must be in accordance with Table 2.

- a. top of the footing to the top of the beam
- b. center of the footing to the center of the beam
- c. top of the footing to the underside of the beam
- d. center of the footing to the top of the beam

91. Using Figure 2 Post –To-Beam Connections, the ‘post cap’ is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. B
- d. A

92. Using Figure 2 Post –To-Beam Connections, the ‘two-ply beam only’ is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. H
- d. E

93. Using Figure 2 Post –To-Beam Connections, the ‘two-or three -ply beam’ is represented by the letter \_\_\_\_\_ .

- a. D
- b. K
- c. H
- d. E

94. Using Figure 2 Post –To-Beam Connections, the ‘6x6 or 4x6’ post is represented by the letter \_\_\_\_\_ .

- a. G
- b. F
- c. H
- d. J

95. Using Figure 2 Post –To-Beam Connections, the ‘prohibited connection’ is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. B
- d. A

96. Using Figure 2 Post –To-Beam Connections, the ‘post’ is represented by the letter \_\_\_\_\_ .

- a. E
- b. C
- c. B
- d. F

97. Using Figure 2 Post –To-Beam Connections, the ‘beam must bear on notch’ is represented by the letter \_\_\_\_\_ .

- a. G
- b. F
- c. H
- d. J

98. Using Figure 2 Post –To-Beam Connections, the ‘notch post for flush beam bearing’ is represented by the letter \_\_\_\_\_ .

- a. D
- b. K
- c. H
- d. E

99. Using Figure 2 Post –To-Beam Connections the ‘(2)½“ diameter through-bolts; at beam splice, provide two bolts at each beam end’ is represented by the letter \_\_\_\_\_ .

- a. G
- b. F
- c. H
- d. J

100. Using Figure 2 Post –To-Beam Connections, the ‘post width – 6” dimension (5½” actual)’ is represented by the letter \_\_\_\_\_ .

- a. G
- b. F
- c. K
- d. H

#### **Section 4: Beams**

101. Beam Size is determined using table \_\_\_\_\_.

- a. table 3A or 3B
- b. figure 3 or 4
- c. table 3A and figure 3
- d. table 3B and figure 4

102. Maximum beam span length for Southern Pine can be found in table \_\_\_\_\_.

- a. table 3A
- b. Table 3B
- c. Both 3A and 3B
- d. none of the above

103. As shown in figure 3, the beam-span length is measured between the inside edge of 2 adjacent posts and does include the overhangs.

- a. True
- b. False

104. The depth of \_\_\_\_\_ must be greater than or equal to the joist depth.

- a. dropped beams
- b. flush beams
- c. stringer beams
- d. spandrel beams

105. Maximum beam span length for Ponderosa Pine can be found in table \_\_\_\_\_.

- a. Table 3A
- b. Table 3B
- c. Both 3A and 3B
- d. none of the above

106. Beams \_\_\_\_\_ past the center of the post up to one-fourth of the actual beam span, as shown in Figure 3.

- a. shall overhang
- b. should overhand
- c. may overhang
- d. both a. and c.

107. Pressure-preservative-treated glulam beams are permissible for spans longer than those shown in Table 3. However, a design and plan submission is \_\_\_\_\_ during the permit application process.

- a. desired
- b. recommended
- c. preferred
- d. required

108. Where multiple 2x members are used to assemble a beam, the plies of the beam must be fastened in accordance with Figure 4.

- a. True
- b. False

109. As shown in figure 3, the beam-span length is measured between the centerlines of 2 adjacent posts and \_\_\_\_\_ the overhangs.

- a. sometimes includes
- b. does not include
- c. does include
- d. None of the above

110. Figure 3 – Beam Types displays which types of beams?

- a. dropped beams
- b. flush beams
- c. stringer beams
- d. both a. and b.

111. Using Figure 3 – Beam Types, which letter represents the ‘dropped beam’ Diagram?

- a. H
- b. B
- c. D
- d. F

112. Using Figure 3 – Beam Types (Flush Beam), which letter represents the ‘beam’?

- a. C
- b. G
- c. B
- d. F

113. Using Figure 3 – Beam Types (Dropped Beam), which letter represents the ‘post’?

- a. E
- b. A
- c. B
- d. H

114. Using Figure 3 – Beam Types, which letter represents the ‘flush beam’ Diagram?

- a. C
- b. A
- c. B
- d. H

115. Using Figure 3 – Beam Types, which letter represents the ‘optional overhang’?

- a. H
- b. G
- c. C
- d. F

116. Using Figure 3 – Beam Types, which letter represents the ‘beam span’?

- a. C
- b. D
- c. B
- d. F

117. Using Figure 3 – Beam Types (Dropped Beam), which letter represents the ‘beam splice at interior post locations only’?

- a. C
- b. E
- c. B
- d. F

118. Using Figure 3 – Beam Types (Dropped Beam), which letter represents the ‘joists’?

- a. C
- b. H
- c. B
- d. D

119. The maximum length of the overhang is equal to one-fourth of the actual beam span length (0.25 x beam span). [Refer to Footnotes]

- a. True
- b. False

120. Using Table 3A – Maximim Beam Span Length<sup>1</sup>, when using Douglas Fir/Larch, Hem/Fir or Spruce/Pine/Fir (SPF), you need to check \_\_\_\_\_.

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

121. Beam depth \_\_\_\_\_ joist depth if joist hangers are used (see Figure 8, Option 3).

- a. must be equal to or greater than
- b. can be equal to the
- c. may be equal to or greater than
- d. None of the above

122. Spans are based on \_\_\_\_\_ live load, normal loading duration.

- a. 10 psf
- b. 20 psf
- c. 30 psf
- d. 40 psf

123. Footnote 4 is which of the following:

- a. Incising is assumed
- b. Design Values based on northern species with no incising assumed
- c. Beam depth must be equal to or greater than joist depth.
- d. Both a. and b.

124. Spans are based on \_\_\_\_\_, and deflections of \_\_\_\_\_ for main span and L/180 for overhang with a 220 lb. point load.

- a. wet service conditions /  $\Delta = L/360$
- b. dry service conditions /  $\Delta = L/360$
- c. wet or dry service conditions /  $\Delta = L/360$
- d. damp service conditions /  $\Delta = L/360$

125. Spans are based on \_\_\_\_\_ dead load, normal loading duration.

- a. 10 psf
- b. 20 psf
- c. 30 psf
- d. 40 psf

126. Comparing live load spans from table 3A and table 3B Footnotes from the review materials, 'the live load, normal loading duration' is:

- a. can be the same under certain conditions, mentioned in footnote 5
- b. is different for Southern Pine and Ponderosa Pine
- c. the same for Southern Pine and Ponderosa Pine
- d. none of the above

127. Using Table 3B – Maximum Beam-Span Length for Southern Pine, a joist span of  $\leq 10'$  with a 2 ply 2x10 beam has a maximum beam span length of:

- a. 6'-2"
- b. 7'-6"
- c. 7'-11"
- d. 8'-0"

128. Using Table 3B – Maximum Beam-Span Length for Southern Pine, a joist span of  $\leq 16'$  with a 3 ply 2x10 beam has a maximum beam span length of:

- a. 6'-2"
- b. 7'-6"
- c. 7'-11"
- d. 8'-0"

129. Using Table 3B – Maximum Beam-Span Length for Southern Pine, a joist span of  $\leq 6'$  with a 2 ply 2x12 beam has a maximum beam span length of:

- a. 12'-2"
- b. 9'-6"
- c. 5'-11"
- d. 4'-10"

130. Using Table 3B – Maximum Beam-Span Length for Southern Pine, a joist span of  $\leq 12'$  with a 3 ply 2x6 beam has a maximum beam span length of:

- a. 5'-4"
- b. 6'-1"
- c. 7'-7"
- d. 8'-6"

131. Using Table 3B – Maximum Beam-Span Length for Southern Pine, a joist span of  $\leq 8'$  with a 2 ply 2x10 beam has a maximum beam span length of:

- a. 6'-2"
- b. 7'-6"
- c. 7'-11"
- d. 9'-0"

132. Using Figure 4 – Beam Assembly, '16" typical fastener spacing' is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. A
- d. B

133. Using Figure 4 – Beam Assembly, '16d nails or # 12x3" wood screws, staggered in 2 rows' is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. A
- d. B

134. Using Figure 4 – Beam Assembly, 'If a beam is constructed with three-ply, attach each outside member to the inside' is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. A
- d. B

135. Using Figure 4 – Beam Assembly, '2 fasteners at each end and at splice ends' is represented by the letter \_\_\_\_\_ .

- a. D
- b. C
- c. A
- d. B



## Section 5: Joists

136. Provide full-depth 2x \_\_\_\_\_ for 2"x10" or deeper joists at intervals not exceeding \_\_\_\_\_ - except the blocking can be reduced to 60% of the height if placed above the beam, for drainage purposes.

- a. blocking/ 8 feet
- b. bridging/ 8 feet
- c. blocking or bridging/ 6 feet
- d. blocking or bridging/ 8 feet

137. The joist-span length is measured between the centerline of bearing at each joist-span end and \_\_\_\_\_ .

- a. does include the overhangs
- b. may include the overhangs
- c. does not include the overhangs
- d. None of the above

138. Joists may overhang past the center of the beam up to \_\_\_\_\_ of the actual joist span.

- a. one-fourth
- b. one-half
- c. three-quarters
- d. seven-eighths

139. Attach the rim joist to the center of each joist with (3)16d nails or (3) #10 by 3-inch Thumb screws.

- a. True
- b. False

140. Joists must bear at least \_\_\_\_\_ nominal onto beams, unless joist hangers are used in accordance with section 7.

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

141. Attach the blocking or bridging with (3)\_\_\_\_\_ at each end.

- a. 2d toe-nails
- b. 10d toe-nails
- c. 3-inch wood screws
- d. both b. and c.

142. Using Figure 5, the letter 'K' represents:

- a. Joists with Dropped Beam – Deck attached at House
- b. Post
- c. Joist hanger
- d. Joist span

143. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter 'C' represents:

- a. Blocking
- b. Post
- c. Joist hanger
- d. Joist span

144. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter 'F' represents:

- a. Ledger board
- b. Continuous rim joist
- c. Optional overhang
- d. Beam

145. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter 'G' represents:

- a. Blocking
- b. Post
- c. Joist hanger
- d. Joist span

146. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter 'E' represents:

- a. Ledger board
- b. Continuous rim joist
- c. Optional overhang
- d. Beam

147. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter 'D' represents:

- a. Blocking
- b. Joist
- c. Joist hanger
- d. Joist span

148. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter 'A' represents:

- a. Blocking
- b. Post
- c. Joist hanger
- d. Joist span

149. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘T’ represents:

- a. Ledger board
- b. Continuous rim joist
- c. Optional overhang
- d. Beam

150. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘H’ represents:

- a. Blocking
- b. Post
- c. Joist hanger
- d. Joist span

151. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘B’ represents:

- a. Ledger board
- b. Continuous rim joist
- c. Optional overhang
- d. Beam

152. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘joist hanger’ is represented by the letter:

- a. H
- b. G
- c. F
- d. E

153. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘existing house wall’ is represented by the letter:

- a. H
- b. G
- c. F
- d. E

154. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘joist’ is represented by the letter:

- a. H
- b. C
- c. F
- d. A

155. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘ledger board’ is represented by the letter:

- a. F
- b. G
- c. B
- d. A

156. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘beam’ is represented by the letter:

- a. H
- b. G
- c. F
- d. E

157. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘joist span’ is represented by the letter:

- a. B
- b. D
- c. C
- d. A

158. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘post beyond’ is represented by the letter:

- a. C
- b. D
- c. F
- d. E

159. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘G’ represents:

- a. Joist span
- b. optional overhang
- c. beam
- d. joist

160. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘D’ represents:

- a. Joist span
- b. post
- c. blocking
- d. continuous rim joist

161. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter 'B' represents:

- a. Joist with two dropped beams/free-standing deck
- b. optional overhang
- c. continuous rim joist
- d. 2x blocking between joists or continuous rim joist

162. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter 'E' represents:

- a. Joist span
- b. optional overhang
- c. beam
- d. joist

163. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter 'F' represents:

- a. post
- b. blocking
- c. beam
- d. joist

164. Using Figure 7, the letter 'A' represents:

- a. Joist with two dropped beams/free-standing deck Diagram
- b. optional overhang
- c. continuous rim joist
- d. 2x blocking between joists or continuous rim joist

165. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter 'I' represents:

- a. Joist span
- b. optional overhang
- c. beam
- d. joist

166. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter 'C' represents:

- a. Joist span
- b. post
- c. blocking
- d. continuous rim joist

167. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter 'H' represents:

- a. Joist span
- b. optional overhang
- c. beam
- d. joist

168. Using Table 4 – Maximum Joist-Span Length<sup>1</sup>, using Southern Pine/without overhang, a 12” joist spacing (on center) with a 2’x10’ joist size can have a maximum span of\_\_\_\_\_.

- a. 13’-1”
- b. 14’-6”
- c. 16’-2”
- d. 18’-0”

169. Using Table 4 – Maximum Joist-Span Length<sup>1</sup>, using Douglas Fir/with overhang, a 16” joist spacing (on center) with a 2’x6’ joist size can have a maximum span of\_\_\_\_\_.

- a. 6’-9”
- b. 8’-0”
- c. 9’-1”
- d. 9’-5”

170. Using Table 4 – Maximum Joist-Span Length<sup>1</sup>, using Larch/without overhang, a 12” joist spacing (on center) with a 2’x6’ joist size can have a maximum span of\_\_\_\_\_.

- a. 6’-9”
- b. 8’-0”
- c. 9’-1”
- d. 9’-5”

171. Using Table 4 – Maximum Joist-Span Length<sup>1</sup>, using Southern Pine/with overhang, a 24” joist spacing (on center) with a 2’x12’ joist size can have a maximum span of\_\_\_\_\_.

- a. 13’-6”
- b. 14’-6”
- c. 16’-2”
- d. 18’-0”

172. Using Table 4 – Maximum Joist-Span Length<sup>1</sup>, using Hem/ Fir with overhang, a 16” joist spacing (on center) with a 2’x8’ joist size can have a maximum span of\_\_\_\_\_.

- a. 6’-9”
- b. 8’-0”
- c. 9’-1”
- d. 9’-5”

### **Section 6: Joist-to-Beam Connections**

173. Use \_\_\_\_\_ if joists bear on a dropped beam.

- a. Option 1
- b. Option 2
- c. Option 3
- d. Options 1 or 2

174. Mechanical fasteners or hurricane clips must have a maximum capacity of 75 pounds in both uplift and lateral directions.

- a. True
- b. False

175. Option 1 is not allowed on free-standing decks.

- a. True
- b. False

176. Use \_\_\_\_\_ if joists bear at a flush beam; see section 7 for hanger requirements.

- a. Option 1
- b. Option 2
- c. Option 3
- d. Options 1 or 2

177. Using Figure 8 – Joist-To-Beam Connections, the letter ‘B’ represents:

- a. Joist hanger
- b. mechanical fastener or hurricane clip
- c. top of beam and joist must be at same elevation
- d. (3)8D Toe nailed or- (3)#10 wood screws (two on one side, one on the other)

178. Using Figure 8 – Joist-To-Beam Connections, the letter ‘C’ represents:

- a. Joist hanger
- b. mechanical fastener or hurricane clip
- c. top of beam and joist must be at same elevation
- d. (3)8D Toe nailed or- (3)#10 wood screws (two on one side, one on the other)

179. Using Figure 8 – Joist-To-Beam Connections, the letter ‘D’ represents:

- a. Joist hanger
- b. mechanical fastener or hurricane clip
- c. top of beam and joist must be at same elevation
- d. (3)8D Toe nailed or- (3) #10 wood screws (two on one side, one on the other)

180. Using Figure 8 – Joist-To-Beam Connections, the letter ‘A’ represents:

- a. Joist hanger
- b. mechanical fastener or hurricane clip
- c. top of beam and joist must be at same elevation
- d. (3)8D Toe nailed or- (3)#10 wood screws (two on one side, one on the other)