

Indiana 4-H/FFA Forestry CDE Question Bank Junior Division

1. For decades the booklet “Fifty Trees of Indiana” has been a popular reference to help Indiana youth learn to identify trees. The late forester who wrote this booklet was;
 - a. Stanley Coulter
 - b. T.E. Shaw
 - c. W.L. Fix
 - d. Dr. Otis Bowen
 - e. None of the above

2. The most common tree community in Indiana is
 - a. Beech-Maple
 - b. Oak-Hickory
 - c. Pin Oak-Sweetgum
 - d. River Birch-Silver Maple
 - e. None of the above

3. Which species does not belong in the following group?
 - a. Quaking Aspen
 - b. Eastern Cottonwood
 - c. Swamp Cottonwood
 - d. Tulip-poplar
 - e. Bigtooth Aspen

4. Which of the following trees needs to be planted in deep, fertile, well-drained soils?
 - a. Black Walnut
 - b. Virginia Pine
 - c. Scots Pine
 - d. Red Pine
 - e. Eastern White Pine

5. Which of the following should not be planted on dry, somewhat eroded soils?
 - a. Eastern White Pine
 - b. Jack Pine
 - c. Scots Pine
 - d. Red Pine
 - e. Eastern Redcedar

6. Which of the following species has high resistance to decay?
 - a. Northern Catalpa
 - b. Black Locust
 - c. Osage-orange
 - d. Eastern Red Cedar
 - e. All of the Above

7. Which of the following species does not have a berry as a fruit?
 - a. Black Tupelo
 - b. Sweetgum
 - c. Black Cherry
 - d. Red Mulberry
 - e. Sassafras

8. Which of the following is an evergreen with spineless cones that curve and twist into many irregular shapes and stay on the tree for many years?
 - a. White Pine
 - b. Scots Pine
 - c. Jack Pine
 - d. Red Pine
 - e. None of the above

9. The upper leaf surfaces of the Slippery Elm are smoother than those of the American Elm.
 - a. True
 - b. False

10. The Eastern Cottonwood and Swamp Cottonwood both have flat leaf stems.
 - a. True
 - b. False

11. Boxelder, Ohio Buckeye, and American Beech all have opposite compound leaves.
 - a. True
 - b. False

12. Tree species with opposite, compound leaves include
 - a. Boxelder
 - b. Ohio Buckeye
 - c. White Ash
 - d. All of the Above
 - e. None of the above

13. All of the Oaks have simple leaves, alternately arranged on twigs.
 - a. True
 - b. False

14. Black Locust and Redbud fruits are bean-like pods which contain several
 - a. small seeds.
 - b. True
 - c. False

15. Sycamore, a common species along Indiana streams, grows to the largest size of any Indiana tree.
- True
 - False
16. The acorns of the Chinquapin Oak are borne on long stalks
- True
 - False
17. The most common tree community in Indiana is the Oak-Hickory community.
- True
 - False
18. The tree also known as "Linn" is
- Bitternut Hickory
 - American Basswood
 - Eastern Cottonwood
 - Sweetgum
 - None of the above
19. The tree with the sulfur yellow bud is
- Bitternut Hickory
 - Eastern Redbud
 - Black Walnut
 - Mockernut Hickory
 - None of the above
20. Which of the following tree species have thorns?
- Black Locust, Honeylocust, and Black Tupelo
 - Black Locust, Honeylocust, and Kentucky Coffeetree
 - Black Locust, Honeylocust, and Osage-orange
 - Black Locust, Kentucky Coffeetree, and Osage-orange
 - None of the above
21. The tree with paired thorns is
- Honeylocust
 - Osage-orange
 - Black Locust
 - Swamp Cottonwood
 - None of the above
22. The tree known as "thorn-tree" is
- Black Locust
 - Honeylocust
 - Osage-orange
 - Flowering Dogwood

23. The tree with single thorns, $\frac{3}{4}$ inch in length, is
- Honeylocust
 - Black Locust
 - Black Maple
 - Osage-orange
 - None of the above
24. Black Maple is known as a hard maple.
- True
 - False
25. Which of the following Oaks is in the Red Oak group?
- Chestnut Oak
 - Chinquapin
 - Black Oak
 - Swamp White Oak
 - None of the above
26. The tree also know as “Pepperidge” is
- Eastern Redcedar
 - Sassafras
 - Black Tupelo
 - Northern Catalpa
 - None of the above
27. The tree with tan colored, honeycomb pith is
- Butternut
 - Black Walnut
 - Black Cherry
 - Bitternut Hickory
 - None of the above
28. The tree with chocolate colored, honeycomb pith is
- Osage-orange
 - Bitternut Hickory
 - Butternut
 - Shagbark Hickory
 - None of the above
29. Which Hickory has 5 to 7 leaflets and little buds?
- Pignut Hickory
 - Mockernut Hickory
 - Shagbark Hickory
 - Bitternut Hickory
 - None of the above

30. Which of the following is the White Oak group?
- a. Pin Oak
 - b. Shingle Oak
 - c. Black Oak
 - d. Chestnut Oak
 - e. None of the above
31. Which of the following has triangular shaped leaves?
- a. Eastern Cottonwood
 - b. Quaking Aspen
 - c. Eastern Redbud
 - d. American Basswood
 - e. None of the above
32. The tree with both scale-like and sharp-pointed leaves is
- a. Eastern White Pine
 - b. Red Pine
 - c. Eastern Redcedar
 - d. Virginia Ping
 - e. Jack Pine
33. Another name for White Hickory is
- a. Shagbark Hickory
 - b. Pignut hickory
 - c. Bitternut Hickory
 - d. Mockernut Hickory
 - e. None of the above
34. The only tree listed in Fifty Trees of Indiana with a palmate leaf arrangement is
- a. Ohio Buckeye
 - b. Black Walnut
 - c. Boxelder
 - d. Kentucky Coffeetree
 - e. None of the above

35. the tree with a spicy odor and taste is
- Black Tupelo
 - Sweetgum
 - Sassafras
 - Virginia Pine
 - None of the above
36. The only Pine with 5 needles per cluster is
- Eastern White Pine
 - Virginia Pine
 - Jack Pine
 - Scots Pine
 - None of the above
37. The tree with the shaggy bark is
- Eastern Redbud
 - American Elm
 - Slippery Elm
 - Shagbark Hickory
 - None of the above
38. The soft Maples include
- Sugar Maple
 - Silver Maple
 - Red Maple
 - Only B and C
 - All of the Above
39. Which of the following has a spiny fruit ball?
- Sycamore
 - Sweetgum
 - Black Tupelo
 - Black Maple
 - None of the above
40. The Pine tree that grows on droughty sites in Southern Indiana is
- Eastern White Pine
 - Jack Pine
 - Red Pine
 - Virginia Pine
 - None of the above

41. The tree species best suited for planting in severely eroded places in Southern Indiana is
- Black Walnut
 - Black Locust
 - Virginia Pine
 - Red Pine
 - Norway Spruce
42. Indiana's state tree is
- Flowering Dogwood
 - Northern Catalpa
 - Tuliptree
 - Eastern Redbud
 - None of the above
43. Which tree bears leaves alternately?
- White Ash
 - Boxelder
 - Hickory
 - Sugar Maple
 - Dogwood
44. Which of the following does not have winged seeds?
- Boxelder
 - Beech
 - Basswood
 - White Ash
 - Sugar Maple
45. Another name for the edges of leaves is
- lobes
 - clefts
 - margins
 - petioles
 - None of the above
46. Triangular-shape leaves are characteristic of
- Black Tupelo
 - Hackberry
 - Cottonwood
 - American Basswood
 - None of the above

47. Winged seeds, joined in pairs, are characteristic of
- White Ash
 - Boxelder
 - Sweetgum
 - Eastern Hophornbeam
48. The Red Oak group includes
- Bur Oak
 - Shingle Oak
 - Chestnut Oak
 - Chinquapin Oak
49. The Kentucky Coffeetree has doubly compound leaves and thick twigs with a mottled color.
- True
 - False
50. The Butternut (White Walnut) can be distinguished from Black Walnut by having smaller number of leaflets, longer buds, chocolate colored pitch and oblong fruit
- True
 - False
51. The pith of Black Walnut is tan in color
- True
 - False
52. Black Locust and Eastern Redbud fruits are bean-like pods which contain several small seeds
- True
 - False
53. The fruit of the American Beech is a bur, $\frac{3}{4}$ inch long, covered with spines, and usually enclosing two triangular-shaped nuts
- True
 - False
54. Trees of the Red Oak group have rounded leaf margins, while those in the White Oak group have bristle-tipped leaves
- True
 - False
55. When comparing differences in the White Oak Group and the Red Oak Group, you will notice that the Red Oak group has
- Bristle-tipped leaves
 - Acorns that mature in one year
 - Plugged pores in the wood
 - All of the Above

56. All oaks of the White Oak group
- Have bristle-tipped leaves
 - Mature their acorns in two years
 - Have plugged wood pores
 - Have opposite leaf arrangement
57. The acorns of the Chinquapin Oak are borne on long stalks
- True
 - False
58. The lower leaf veins of the American Hornbeam are seldom forked
- True
 - False
59. The Kentucky Coffeetree is the most common tree in Indiana
- True
 - False
60. White Ash has opposite compound leaves.
- True
 - False
61. The leaves of Sweet gum are Five-pointed like a star. The fruit is a dark colored berry.
- True
 - False
62. Black Locust is doubly compound with long branched thorns.
- True
 - False
63. Shingle Oak are lobed leaves with an alternate arrangement.
- True
 - False
64. The American Hornbeam, Eastern Hop Hornbeam, and River Birch have thin smooth leaves with doubly-toothed leaf margins.
- True
 - False
65. The seeds of the Elms, Silver Maple, and Flowering Dogwood mature in the spring.
- True
 - False

66. The leaf veins of the Flowering Dogwood curve to the tip of the leaf.
- True
 - False
67. Eastern Hop hornbeam has shreddy bark and a fruit that resembles hops.
- True
 - False
68. The acorns of Northern Red Oak are set in a deep bowl-like cup, while Pin Oak acorns are set in shallow cups.
- True
 - False
69. Members of the Red Oak group mature their acorns in two years, while members of the White Oak group mature their acorns in one year.
- True
 - False
70. Eastern Red cedar is the only evergreen tree that occurs naturally in Indiana.
- True
 - False
71. Two trees with leaves that are oval and have entire leaf margins are Common Persimmon and Flowering Dogwood.
- True
 - False
72. The Mockernut Hickory (White Hickory) has stout twigs, large buds, and shaggy bark.
- True
 - False
73. The Quaking Aspen can be distinguished from the Big tooth Aspen by its finely cut leaf margins and finer twigs.
- True
 - False
74. The new buds of Sycamores are formed under the cone-shaped base of the leaf stem.
- True
 - False
75. Which of the following has spiny cones?
- Red Pine
 - Eastern White Pine
 - Jack Pine
 - Virginia Pine

76. A pine which has dark green needles and has irregular growth is the _____ pine.
- Jack
 - Scotch
 - Red
 - Virginia
77. 79. Which of the following trees often grows in wet or poorly drained conditions?
- Pin Oak
 - Chestnut Oak
 - White Hickory
 - Pignut Hickory
 - none of the above
78. The following has opposite leaves
- Red Mulberry
 - Common Persimmon
 - Boxelder
 - Sassafras
 - A and B
79. Which species does not belong in the following group?
- Quaking Aspen
 - Eastern Cottonwood
 - Swamp Cottonwood
 - Tuliptree
 - Bigtooth Aspen
80. Shagbark Hickory usually has 5 leaflets
- True
 - False
81. Eastern Cottonwood and Quaking Aspen leaf stem are long compared to the leaf stems of River Birch.
- True
 - False
82. Which species does not have an opposite leaf arrangement?
- Flowering Dogwood
 - Boxelder
 - Shingle Oak
 - Ohio Buckeye
 - White Ash

83. Which of the following has doubly compound leaves?
- Honey locust
 - Kentucky Coffee tree
 - White Ash
 - Black Locust
 - A and B
84. Mockernut Hickory is also known as White Hickory.
- True
 - False
85. Pignut Hickory is also known as Black Hickory.
- True
 - False
86. Soft maples produce seeds in the fall and hard maples produce seeds in the spring.
- True
 - False
87. Sycamore leaves have leafy clasps at the base of their leaf stems.
- True
 - False
88. Black tupelo fruits look like spiny balls.
- True
 - False
89. Bur Oaks have acorns with a hairy fringe on top.
- True
 - False
90. The most common tree community in Indiana is the Tuliptree-Sugar Maple community.
- True
 - False
91. Which is a tree that can have leaf stems 5 inches long?
- White Oak
 - Sweetgum
 - American Elm
 - Osage-Orange
92. Leaf clasps are found on tree species such as
- Tuliptree
 - Red Maple
 - Flowering Dogwood

93. A tree species which often has small distorted twigs called “witches’ brooms” is
- American Basswood
 - Red Mulberry
 - Northern Catalpa
 - Hackberry
94. Which is a tree with very rough leaves and gray twigs?
- Slippery Elm
 - American Elm
 - Eastern Redbug
 - Common Persimmon
95. Which tree has “scaly” orange bark on young trees?
- Virginia Pine
 - Red Pine
 - Scots Pine
 - Jack Pine
96. Which tree is also called the “hedge” tree?
- Honeylocust
 - Slippery Elm
 - Black Locust
 - Osage-orange
97. Which tree has fruit which is a small blue berry?
- Sassafras
 - Eastern Redcedar
 - Eastern Redbud
 - Slippery Elm
98. Black Walnut leaves are compound.
- True
 - False
99. Honeylocust is the only tree with doubly compound leaves found in Indiana.
- True
 - False
100. Which of the following is not commonly used for pulpwood?
- Black Walnut
 - Tuliptree
 - Sycamore
 - Bigtooth Aspen
 - Black Tupelo

101. Which of the following trees have two needles per cluster?
 - a. Eastern White Pine
 - b. Red Pine
 - c. Scots Pine
 - d. B and C
 - e. A and C

102. Which of these trees does not have two needles?
 - a. White Pine
 - b. Jack Pine
 - c. Red Pine
 - d. Scotch Pine

103. Ohio Buckeye has compound leaves with five leaflets.
 - a. true
 - b. false

104. For most tree species, leaf attachment is either alternate or compound.
 - a. true
 - b. false

105. A single leaf stem is either doubly-compound, compound, or
 - a. alternate
 - b. opposite
 - c. whorled
 - d. simple

106. Trees that prefer similar growing conditions form
 - a. forest stands
 - b. forest land
 - c. state forests
 - d. forest communities

107. An association of trees that grows together in bottomlands and poorly drained soils is
 - a. Beech-Maple
 - b. Pin Oak-Sweetgum
 - c. Oak-Hickory
 - d. Mixed

108. The Blue Beech(American Hornbeam) has shreddy bark and fruit like a hopvine.
 - a. true
 - b. false

109. Which of these oak leaves do not have bristle tips?
- Black Oak
 - Pin Oak
 - Red Oak
 - Bur Oak
110. Leaf clasps are small leaf like growths that grasp the twig at the base of the leaf stem.
- true
 - false
111. Which of the following trees have leaf clasps?
- Sycamore
 - Tuliptree
 - Black Willow
 - Black Maple
 - all of these
112. Which is not a leaf margin?
- toothed
 - lobed
 - smooth
 - winged
113. A leaf margin could be
- simple
 - entire
 - opposite
 - falcate
114. A complete leaf has a bud at the base of the leaf stem on the woody twig.
- true
 - false
115. Boxelder leaves are arranged opposite to one another.
- true
 - false
116. Both Black Oak and Northern Red Oak have bristle-tipped leaves.
- true
 - false
117. Sugar Maple leaves have rounded leaf crotches.
- true
 - false

118. Which is not of the red oak family?
- Black Oak
 - Pin Oak
 - Bur Oak
 - Shingle Oak
 - None of the above
119. The following has/have toothed margins.
- Red Mulberry
 - American Elm
 - Black Gum
 - Sassafras
 - A and B
120. Slippery Elm has very rough leaves and gray twigs, and American Elm has slightly rough leaves and brown twigs.
- true
 - false
121. Sweetgum is often found growing with Pin Oak in the low, wet woods of Southern Indiana.
- true
 - false
122. The following has/have doubly compound leaves
- Red Mulberry
 - Kentucky Coffetree
 - Black Walnut
 - B and C
 - A and B
123. Bristle-tipped leaves are found on
- Pin Oak
 - Black Oak
 - Red Oak
 - Shingle Oak
 - All of the above
124. Trees with distinctly variable leaf shapes include
- Sassafras
 - Red Mulberry
 - Boxelder
 - A and B
 - All of the above

125. Palmately compound leaves are found on
- Shagbark Hickory
 - Ohio Buckeye
 - Butternut
 - Boxelder
 - White Ash
126. Alternate leaf arrangement is a characteristic of
- maples
 - ashes
 - dogwoods
 - oaks
 - pin
127. Which of the following needles are four to six inches long?
- White Pine
 - Red Pine
 - Scots Pine
 - Jack Pine
 - Virginia Pine
128. Which tree species does not belong in the following group based on leaf arrangement?
- Silver Maple
 - Black Willow
 - Black Walnut
 - Butternut
 - Black Oak
129. Sassafras can be identified by
- deeply furrowed bark
 - spicy taste of twig
 - zigzag twig
 - plum-like fruit
130. In winter trees are identified by
- size
 - bark
 - leaf
 - color
131. Trees can be identified in winter by
- bark characteristics
 - fruit
 - buds
 - All of the above

132. Leaf clasps occur on
- Green Ash
 - Red Maple
 - Cottonwood
 - Sycamore
133. Which of these trees have opposite compound leaves?
- Black Locust
 - Kentucky Coffeetree
 - Ohio Buckeye
 - Honeylocust
134. A zigzag twig describes
- Cottonwood
 - Black Walnut
 - Basswood
 - Sweetgum
135. “First tree to leaf out in the spring, and the first to lose its leaves” describes
- Boxelder
 - Ohio Buckeye
 - Black Cherry
 - Black Tupelo
 - None of the above
136. The Sweetgum fruit is a
- spiny ball
 - soft ball
 - rough skinned ball
 - flat, long pod
 - None of the above
137. The sugar maple seed ripens
- in the spring
 - after a frost
 - in the fall
 - every other year
 - None of the above
138. Bur Oak fruit is
- an inch long large acorn, set in a flat, shallow cup
 - an acorn born on a long stalk
 - a large acorn set deep in a cup with a hairy fringe on top
 - an acorn set in thin, cone-shaped cups, borne on a short stalk
 - None of the above

139. The fruit of this tree often hangs on until midwinter.
- Sycamore
 - Persimmon
 - Tuliptree
 - Osage-orange
140. The buds of this tree are sulfur-yellow in color.
- Pecan Hickory
 - Bitternut Hickory
 - Pignut Hickory
 - White Hickory
141. Warty bark and witches' broom are characteristics of
- American Beech
 - American Elm
 - Sweetgum
 - Hackberry
142. American Elm bark
- has alternate colored layers
 - resembles alligator hide
 - is tight and gray in color
 - is mottled in color
143. The limbs tend to grow at right angles to the trunk.
- Honeylocust
 - Pin Oak
 - Black Tupelo
 - Boxelder
 - None of the above
144. Which of the following does not have compound leaves?
- Red Mulberry
 - Kentucky Coffeetree
 - Black Walnut
 - Green Ash
 - None of the above
145. Large, three-lobed leaves, with top lobe widely notched, describes
- Black Walnut
 - Tuliptree
 - Sassafras
 - Sycamore
 - None of the above

146. Compound leaves, alternately arranged on the twig, solid pith, not honey-combed describes
- Maples
 - Oaks
 - Hickories
 - Elms
147. Which species of fruit does not belong in the following group?
- Common Persimmon
 - Eastern Redbud
 - Honeylocust
 - Kentucky Coffeetree
148. Based on leaf arrangement, which species does not belong with the others?
- Silver Maple
 - Black Willow
 - Black Walnut
 - Black Oak
149. Based on fruit type, which of the following trees does not belong with the others?
- Black Locust
 - Kentucky Coffeetree
 - Eastern Redbud
 - Black Cherry
150. Based on seed dispersal mechanism, which species does not belong in the following group?
- Persimmon
 - Red Maple
 - White Ash
 - Boxelder
151. Cottonwood leaves have a _____ shape.
- tomentose
 - rachis
 - petiole
 - deltoid
152. Which of the following trees has a winged seed called samara?
- Black locust
 - White ash
 - Ironwood
 - River birch
 - None of the above

153. This tree's twig bears corky wings. The tree grows straight and tall, and can be found in low, wet woods of southern Indiana. It is
- Swamp white oak
 - Sweetgum
 - Bur Oak
 - Hackberry
154. The following oak tree has bristle-tipped leaves
- Black Oak
 - Swamp White
 - Bur
 - all of these
155. Which of the following does not have compound leaves?
- Sycamore
 - Mockernut hickory
 - Black walnut
 - Boxelder
156. Elm have which type of fruit?
- samara
 - wafer-like
 - pod
 - berry
157. The darker colored wood near the center of a tree is called
- heartwood
 - cambium
 - springwood
 - sapwood
 - none of the above
158. Tree parts used for food storage are
- wood rays
 - parenchyma cells
 - heartwood lines
 - cambium segments
 - None of the above
159. Dead, inner wood near the tree center is
- sapwood
 - summerwood
 - springwood
 - heartwood
 - None of the above

160. The outer living portion of the stem is
- sapwood
 - summerwood
 - springwood
 - heartwood
161. Ribbon like lines running across the annual rings are called
- wood rays
 - parenchyma cells
 - heartwood lines
 - cambium segments
162. Forest fires damage and destroy small trees, but do not damage large trees.
- true
 - false
163. Nine out of ten forest fires in Indiana are caused by human carelessness.
- true
 - false
164. The geographical unit with the greatest percentage of trees in Indiana is the
- Northern Unit
 - Lower Wabash Unit
 - Knobs Unit
 - Upland Flats Unit
 - None of the above
165. Feeder roots can be harmed by grazing livestock.
- true
 - false
166. The cambium is a thin, green layer just inside the inner bark.
- true
 - false
167. Growth in diameter is a result of
- new rings of growing wood from the center of the stem
 - new rings of growing wood developed from both sides of the cambium
 - new rings of growing wood developed from the sapwood
 - new rings of the growing wood developed from the inside of the bark
 - None of the above
168. Livestock should be left to roam the forests to fertilize the soils.
- true
 - false

169. Bark is considered the “armor” of a tree.
- true
 - false
170. Cambium is
- the “armor” which protects the tree from insects and disease
 - the thin, green layer just inside the inner bark
 - the inner most layer of wood
 - the layer between the heartwood and the sapwood
 - None of the above
171. Some important uses of Indiana forests are
- wood products
 - conservation of soil and water
 - recreation, beauty, and comfort
 - all of the above
 - None of the above
172. Livestock grazing in woodlots is not a significant problem in Indiana.
- true
 - false
173. The tree part that captures energy from the sun is
- cambium
 - photosynthesis
 - leaves
 - xylem
 - heterphagous sclera
174. Photosynthesis is the process in the leaf cells that uses light, carbon dioxide and water to produce simple sugars.
- true
 - false
175. Preservation means use of non-renewable minerals and harvesting
- true
 - false
176. The _____ roots in the upper two feet of soil feed the tree.
- anchor
 - fine hair-like
 - supporting
 - cambium
 - None of the above

177. Quail use _____ for travel lanes
- forest interior
 - forest edge
 - pasture adjacent to forest
 - riparian zones
178. Bark wounds caused by fire, wind, poor pruning, and logging injury can be prevented by
- better equipment
 - proper tree selection
 - good forest management
 - growing certified trees
 - none of the above
179. In a cross section of tree trunk, the correct sequence of tissues going from the inside of a tree to the outside are
- sapwood, heartwood, cambium, bark
 - heartwood, sapwood, bark, cambium
 - pith, heartwood, sapwood, cambium
 - bark, cambium, sapwood, heartwood
 - None of the above
180. Which of the following tree species has its seed spread differently from the others?
- Common Persimmon
 - Flowering Dogwood
 - Black Cherry
 - Black Walnut
 - Eastern Cottonwood
181. Which of the following is an insect which damages tree stems directly?
- anthracnose
 - tent caterpillars
 - Verticillium Wilt
 - Diplodia Tip Blight
 - carpenter worms
182. A tree that does not have both male and female flowers on the same tree is
- Shagbark Hickory
 - White Oak
 - Eastern Cottonwood
 - Black Walnut
 - all of the above
183. Black Walnut is considered the most valuable wood in Indiana, but more mills in Indiana use Red and Black Oaks
- true
 - false

184. Outbreaks of insect damage are more common in mixed species stands than pure stands of one tree species.
- true
 - false
185. Imperfect flowers with only female parts are called staminate flowers.
- true
 - false
186. Tuliptree and Boxelder seeds are scattered mostly by the wind.
- true
 - false
187. Perfect flowers have both male and female parts.
- true
 - false
188. Black Locust trees are often used as fence posts.
- true
 - false
189. Both Sugar Maple and Red Maple seeds ripen in late summer.
- true
 - false
190. Noninfectious diseases may result from
- Sudden change in air pollution
 - Sudden change in air temperature
 - Sudden change in soil and water relationship
 - Mechanical injuries
 - All of the above
191. Black Walnut is the wood most often used in Indiana sawmills
- true
 - false
192. The tree used in basketry is
- Black Willow
 - Black Maple
 - Black Locust
 - Black Cherry
 - None of the above

193. The tree used to make baseball bats and hockey sticks is
- White Ash
 - Black Walnut
 - Black Cherry
 - Shagbark Hickory
 - None of the above
194. The seed of the Slippery Elm, White Ash, and Tuliptree mature in the fall.
- true
 - false
195. The seed of the Red Maple matures in the spring.
- true
 - false
196. Which of the following insects damage tree roots directly?
- pine weevils
 - tent caterpillars
 - bagworms
 - white grubs (June beetle larvae)
 - linden loopers
197. Black Tupelo seeds are distributed by birds and other animals
- true
 - false
198. Seed of the Tuliptree is primarily scattered by birds.
- true
 - false
199. Forest insect pests can be controlled by
- chemical insecticides
 - insect parasites
 - insect diseases
 - mechanical controls
 - All of the above
200. Infectious leaf disease
- seldom cause tree death
 - may be caused by fungi
 - may be caused by bacteria
 - may be viral
 - All of the above

201. Infectious diseases are caused by
- water pollution
 - air pollution
 - fungal bodies
 - mechanical injury
202. Which of the following trees have perfect flowers?
- Black Locust
 - Black Walnut
 - Black Willow
 - Black Tupelo
 - All of the above
203. Seeds that ripen in the spring include:
- American Elm
 - Hackberry
 - White Ash
 - Shagbark Hickory
 - All of the above
204. Seeds scattered by birds include
- Hackberry
 - Black Cherry
 - Red Mulberry
 - Eastern Redcedar
 - All of the above
205. A disease common to Sycamores is:
- verticillium wilt
 - diplodia tip blight
 - white trunk rot
 - anthracnose
 - All of the above
206. Carpenter worms attack:
- Red Oaks
 - White Oaks
 - Soft Maples
 - Hard Maples
 - None of the above
207. Air pollution is considered a Noninfectious disease
- true
 - false

208. Imperfect flowers with only male parts are called pistillate flowers:
- true
 - false
209. Nearly all species of hardwoods are commonly used to make pulpwood except:
- Black Walnut, Black Locust, and Black Cherry
 - Black Walnut, Black Cherry, and Black Oak
 - Black Walnut, Black Locust, and Honeylocust
 - Black Walnut, Black Locust, and Osage-orange
 - None of the above
210. Which of the following is not an example of a primary wood-using industry?
- Lumber
 - Veneer
 - Cabinet-making
 - Cooperage
 - Paper
211. Which of the following is not used commonly for pulpwood?
- Black Walnut
 - Tuliptree
 - Sycamore
 - Bigtooth Aspen
 - Black Tupelo
212. Secondary wood-using industries are those that purchase _____ to use in manufacturing:
- Lumber
 - Logs
 - Both A and B
 - None of the above
213. Which trees are considered to be good sources for making fence posts?
- Red Mulberry, Sassafras
 - Black Oak, Common Persimmon
 - Osage-orange, Northern Catalpa
 - both A and C
 - None of the above
214. Which of the following trees is not used for fence posts?
- Osage-orange
 - Northern Catalpa
 - Eastern Redcedar
 - Persimmon
 - None of the above

215. The characteristics or properties of a tree determine:
- Shock resistance
 - End product
 - Mill ratio
 - Timber harvest
 - None of the above
216. Powder post beetles prefer infesting pine, but will also attack hardwood in some cases.
- true
 - false
217. A stand of trees will be more vulnerable to insect attack outbreaks if it is
- over mature
 - weakened by wind
 - weakened by drought
 - both A and C
 - all of the above
218. Tree species which have seeds that ripen in the fall include:
- Sycamore, Eastern Hophornbeam, American Hornbeam, and Sassafras
 - Sassafras, Eastern Redcedar, Black Tupelo, and Flowering Dogwood
 - River Birch, Black Walnut, Common Persimmon, and American Beech
 - Eastern Hophornbeam, Black Cherry, Sugar Maple, and Black Locust
 - None of the above
219. Insect outbreaks often occur in
- pure stands of one tree species
 - young, vigorous stands
 - stands weakened by drought
 - A and C
 - None of the above
220. Insect outbreaks often occur in
- pure stands of one tree species
 - young vigorous stands
 - sturdy, strong trees
 - fire resistant trees
 - None of the above
221. Willow wood is heavy, hard and strong with a high shock resistance and is typically used for flooring.
- True
 - False

222. Ash and maple seeds are distributed mainly by water.
- True
 - False
223. The seeds of elm, soft maples, willows and cottonwood ripen mostly in August.
- True
 - False
224. Insect outbreaks often occur in
- pure stands of one tree species
 - young vigorous stands
 - stands weakened by drought
 - A and C
225. When planting seedlings, the depth of the planting hole is not an important issue to consider.
- True
 - False
226. Trees with imperfect flowers have
- one type flower-male or female
 - both male and female flowers
 - male flowers on the upper branches
 - female flowers on the upper branches
 - None of the above
227. The fruit grows from the female flower.
- True
 - False
228. The majority of tree seeds mature in _____ months.
- 1-2
 - 3-5
 - 6-8
 - 9-12
 - None of the above
229. Failure of seeds to sprout may be due to
- cool, moist soil
 - dry, hard soil
 - leaf litter
 - high winds
 - None of the above

230. Primary wood products industries in Indiana.
- make plywood and paneling
 - produce boats and trailers
 - make baseball bats
 - purchase logs
231. Many of our most serious insect problems have been caused by an insect species brought into the United States from foreign countries.
- True
 - False
232. Tuliptrees and hard maples are the top ranked hardwood species used by Indiana sawmills.
- True
 - False
233. Tree flowers that get pollinated never developed seeds.
- True
 - False
234. Which tree has perfect flowers?
- Black Locust
 - Walnut
 - Basswood
 - A and C
235. The Tuliptree has perfect flowers (both male and female parts).
- True
 - False
236. Female flowers are also called pistillate flowers.
- True
 - False
237. Red Cedar seeds are scattered mostly by water.
- True
 - False
238. Red and Black oaks are the top ranked hardwood species used by Indiana sawmills.
- True
 - False
239. American Basswood is better than White Ash for making baseball bats.
- True
 - False

240. The top three hardwood species used in Indiana sawmills are Red Oak, Black Oaks, and Black Cherry.
- True
 - False
241. Hickory is used as fuel for meat smoking.
- True
 - False
242. Which of the following has winged seeds?
- Honeylocust
 - Ohio Buckeye
 - Tuliptree
 - Black Oak
 - Kentucky Coffeetree
243. Which oak is not used for cooperage?
- Red Oak
 - White Oak
244. Which of the following trees has a different fruit type from the others?
- Black Locust
 - Kentucky Coffeetree
 - Eastern Redbud
 - Honeylocust
 - Black Cherry