

Forestry Exam
2024 Ag Bowl Scholarship Invitational
Do NOT write on the exam. Only on the scantron.
(50 Questions)



True or False:

For the following twelve true or false questions, mark A on the scantron if the statement is true and B if the statement is false.

1. A B A red pine stand with a basal area of 20 square feet per acre should be thinned to improve growing conditions for the remaining trees.
2. A B Maintaining vegetative diversity is key to attracting a variety and abundance of wildlife to a woodland.
3. A B The chain brake should be set (locked) when starting a chainsaw.
4. A B Declination for a given location does not change over time.
5. A B Logs are scaled to determine the scale (volume) and quality of harvested logs so a buyer knows what is being sold and the purchaser knows what they are buying. When scaling logs for lumber production, the length of the log and the average diameter inside the bark on the small end of the log are evaluated.
6. A B Defects such as burls, limbs, or insect holes will not affect the total volume of usable wood but will reduce wood quality or grade.
7. A B A clearcut is an option for an intermediate harvest.
8. A B Thinning to maintain tree vigor and removing dead wood greater than 2 inches in diameter are effective approaches to protect against bark beetles.
9. A B Boxelder is a kind of maple tree.
10. A B The purpose of kiln-drying wood is to reach the wood's equilibrium moisture content, a balance between the moisture content of the wood and the relative humidity of its surrounding environment.
11. A B Pine forests are the most common grouse habitat.
12. A B Gypsy moths only attack ash trees.

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Multiple Choice:

13. How many square feet are in an acre?
- 43,560
 - 6,230
 - 56
 - 308
14. A farm building project requires 500 board feet of 1" x 8" boards priced at \$600/MBF. What will this material cost?
- \$500
 - \$4,000
 - \$3,000
 - \$6,000
15. Forest certification is a mechanism for forest monitoring, tracking and labeling timber and forest products. Many of Minnesota's forests are certified by an independent, third-party (outside national or international organization) entity. Which of the following is NOT one of the organizations certifying Minnesota's forests?
- Forest Stewardship Council
 - American Forest Certification System
 - American Tree Farm System
 - Sustainable Forestry Initiative
16. Which of the following tree species does not have compound leaves?
- Basswood
 - Ash
 - Boxelder
 - Butternut
17. Which of the following tree species has a simple leaf?
- Hackberry
 - Green ash
 - Black walnut
 - Butternut
18. What is the name of the term which refers to the stem or stalk of a leaf?
- Serrate
 - Margin
 - Petiole
 - Base

19. What is the new name for the gypsy moth, which predated on leaves of oaks, elms, and maples?
- Gray moth
 - Brown moth
 - Hairy moth
 - Spongy moth
20. What do closely spaced annual growth rings represent?
- Short growth
 - Slow growth
 - Tall growth
 - Fast growth
21. Which of the following species is most likely to reproduce using the coppice system?
- Aspen
 - Spruce
 - Black walnut
 - Tamarack
22. What is the moisture content, in percent, that lumber intended for indoor use should be dried to?
- 25 percent
 - 50 percent
 - 6-8 percent
 - 10-15 percent
23. Planting stock with the designation 2-1 indicates which of the following?
- The seedlings are 1 year old
 - The seedlings are 2 feet and 1 inch tall
 - The seedlings have been grown for 2 years in a nursery seedling bed and one year in a transplant bed
 - The seedlings have been grown for 2 years in a transplant bed and one year in a nursery seedling bed
24. Your neighbor has come to you asking for a diagnosis of issues they noticed on their ash tree. You notice that the leaves have tan to brown irregular spots which often cause the leaves to be curled or deformed. This appears to be most common on lower leaves and those within the inner canopy. What is most likely the problem with the tree?
- Leaf curl aphids
 - Anthracoze
 - Plant bugs
 - Emerald ash borer

25. Fiber length is an important property of pulp fibers used in the manufacture of paper. As fiber length increases, which of the following is true?
- Bursting strength and print quality increase
 - Bursting strength and print quality decrease
 - Folding endurance and tearing resistance decrease
 - Folding endurance and tearing resistance increase
26. Which of the following tree species in Minnesota is the best example of a “fire-dependent” species?
- Bur oak
 - Balsam fir
 - Paper birch
 - Jack pine
27. What is the alternate host for white pine blister rust?
- Eastern red cedar
 - Soybeans
 - Aspen
 - Gooseberries and currants
28. Within a forestry context, what is assisted migration?
- Bird-assisted movement of plants to an area outside of their native range
 - Human-assisted movement of plants to an area outside of their native range
 - Wind-assisted movement of plants to an area outside of their native range
 - Squirrel-assisted movement of plants to an area outside of their native range
29. Juglone, a naturally occurring organic compound that is toxic or growth-stunting to some plants, is associated with which of the following species?
- Eastern red cedar
 - Spruce
 - Black walnut
 - Sugar maple
30. Which of the following species is a preferred browse species for moose?
- Aspen
 - White pine
 - Hickory
 - Spruce
31. Which of the following is not a standard hardwood lumber grade?
- Select
 - FAS
 - 2B common

- d. 4A common
32. One hectare of land equals approximately _____ acres.
- a. 5.2
 - b. 3
 - c. 2.5
 - d. 0.6
33. Which of the following is a possible effect of forestry practices on soil?
- a. Erosion
 - b. Compaction
 - c. Nutrient loss
 - d. All of the above
34. What is the state tree of Minnesota?
- a. Norway pine
 - b. White pine
 - c. Blue spruce
 - d. Norway spruce
35. Which of the following species is the least tolerant (of shade)?
- a. Yellow birch
 - b. White pine
 - c. Aspen
 - d. Eastern hemlock
36. From a silvicultural standpoint, the harvesting of aspen is best done using the _____ system.
- a. Clearcutting
 - b. Seed tree
 - c. Group selection
 - d. Shelterwood
37. A forester interested in habitat management for deer and ruffed grouse would favor which of the following species?
- a. Yellow birch
 - b. Aspen
 - c. Sugar maple
 - d. Norway pine
38. Which of the following is not one of the basic chemical constituents of wood?
- a. Lignin
 - b. Cellulose
 - c. Cellulite
 - d. Hemicellulose

39. What is the actual size (thickness and width) of a 2" x 4", dry, surfaced piece of dimension lumber?
- 2" x 4"
 - 1 ½" x 3 ½"
 - 1 ¼" x 3 ¼"
 - 1 ½" x 3 ¾"
40. Which of the following would you use an increment borer to measure?
- Tree age
 - Basal area
 - D.B.H.
 - Merchantable height
41. When planting tree seedlings, it is best to:
- Plant so the root collar is at least 2 inches below the soil surface
 - Dig a very shallow hole and "j" root the seedling
 - Only plant seedlings that have soaked in clean water to remove soil particles
 - Eliminate air pockets by heeling in the seedlings
42. A fungus condition, which may cause death or damage to newly emerging seedlings, is called:
- Ground rot
 - Damping off
 - Mulching
 - Heart rot
43. You have 537 trees to plant in an acre. Which of the following average spacings should you use?
- 7 feet x 7 feet
 - 8 feet x 8 feet
 - 9 feet x 9 feet
 - 10 feet x 10 feet
44. Berry, drupe and pome are types of _____
- Fleshy fruits
 - Dry fruits
 - Aggregate fruit
 - Mutiple fruit
45. _____ is the productive capacity of a site for a given species.
- Site preparation
 - Silviculture
 - Site capacity
 - Site index

46. What is the width of a cut made by a saw?
- Kerf
 - Notch
 - Cant
 - Gap
47. The vertical wood surface that is exposed when a block of wood is split in half is the _____ surface.
- Tangential
 - Radial
 - Transverse
 - Cross-sectional
48. When planting a farmstead shelterbelt, trees should be planted:
- Not more than 20 feet from any building
 - Only on the south sides of buildings
 - At least 100 feet from any building
 - At least $\frac{3}{4}$ mile from any building
49. The scientific name for butternut is *Juglans cinerea* identifies the _____.
- Species
 - Order
 - Genus
 - Family
50. What does the contour interval on a topographic map indicate?
- Different types of contour lines
 - Difference in elevation represented by adjoining contour lines
 - Elevation at a specific point
 - Elevation of a general area