

State FFA Forestry 2019 Contest
Written Examination (150 points)

This exam consists of 38 multiple choice and 12 true or false questions, each worth 3 points. Mark your answers on your scantron bubble sheet. DO NOT mark on this exam.

Multiple choice questions:

1. The typical new home built today uses approximately 13,000 board feet of lumber. If the average price of lumber is \$500 per MBF, what is the total cost of lumber for the house?
 - a. \$65,000
 - b. \$6,500
 - c. \$650
 - d. None of the above
2. One acre of land equals approximately _____ hectares.
 - a. 5.2
 - b. 3
 - c. 0.4
 - d. 2.5
3. The thin layer of living cells between the bark and wood, which by cell division, forms new bark and wood is the:
 - a. Pith
 - b. Heartwood
 - c. Sapwood
 - d. Cambium
4. What is the term referring to the stem of a leaf?
 - a. Leaflet
 - b. Margin
 - c. Petiole
 - d. Serrate
5. Wood products installed within a building are subject to infestation by a wide variety of insects that have the potential of causing considerable economic loss. Which one of the following is a wood destroying insect that is of concern for wood products in Minnesota?
 - a. Powder post beetles
 - b. Marine borers
 - c. Forest tent caterpillar
 - d. Gypsy moth
6. 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

7. What is the process called where a felled tree or log is dragged to a central landing point?
- Yarding
 - Loading
 - Bucking
 - Skidding
8. Which of the following trees does not have compound leaves?
- Boxelder
 - Butternut
 - Green ash
 - Yellow birch
9. How many board feet are contained in a piece of lumber 10" x 10" x 18' (nominal size)?
- 164
 - 150
 - 75
 - 12.5
10. What does the designation 2-2 indicate for planting stock?
- Trees are 4 inches long
 - Trees are 2 years old
 - Trees are transplants
 - Root to shoot ratio is 1
11. Which silvicultural system is the most appropriate for the final harvest of red pine??
- Seed tree
 - Shelterwood
 - Group selection
 - Clearcutting
12. The most tolerant (of shade) tree listed is the:
- Yellow birch
 - White pine
 - Eastern hemlock
 - Aspen
13. What forest type comprises the largest percentage of timberland in Minnesota?
- Oak
 - Black spruce
 - Aspen
 - Northern hardwoods (maple, birch, basswood)
14. From a silvicultural standpoint, the harvesting of aspen is best done using the _____ system.
- Group selection
 - Shelterwood
 - Seed tree
 - Clearcutting

15. What is the purpose of a log rule scale?
- Estimate the weight of the log
 - Determine usable firewood available
 - Estimate the board feet of lumber in a log
 - Calculate the green volume of the log
16. What is wood stickering?
- Placing a sticker on lumber to identify where it was manufactured
 - Identifying standing trees which are to be felled during a timber harvest
 - Placing a stick between pieces of stacked lumber to allow better air flow for drying
 - Planing the wood to remove burrs which can cause splinters during handling
17. What is the name of the process where live and dead branches are removed from the main stem of a standing tree?
- Pruning
 - Commercial thinning
 - Noncommercial thinning
 - Girdling
18. Why is sugar maple lumber used for flooring in bowling alleys??
- The higher sugar content in the wood makes the surface wear better over time
 - Because there is more sugar in the wood, sounds are muffled
 - It is a lighter colored wood and thus helps make the bowling alley look brighter
 - It is a very strong wood and thus well-suited for the wear and tear of a bowling alley
19. Which of the following is not one of the basic chemical constituents of wood?
- Lignin
 - Cellulose
 - Cellulite
 - Hemicellulose
20. What is the moisture content (oven dry basis to the nearest 0.1%) of a 2" x 4" weighs 2.885 pounds when green and 1.355 pounds when oven dried?
- 47%
 - 112.9 %
 - 212.9 %
 - None of the above
21. What is the actual size (thickness and width) of a 2" x 6", dry, surfaced piece of dimension lumber?
- 2" x 6"
 - 1 1/2" x 5 1/2"
 - 1 5/8" x 5 5/8"
 - 1 1/2" x 5 3/4"
22. According to the Scribner Decimal C volume table, a 14-foot long log with a small end diameter of 16 inches has 14 board feet of volume. How many board feet are actually in the log?
- 1.4 board feet
 - 14 board feet
 - 140 board feet
 - 1,400 board feet

23. Jack pine seeds are known to germinate best after they have been:
- Soaked in nitric acid
 - Burned and released after a fire
 - Scarified prior to planting
 - Frozen for 9 months
24. The increment borer is used to determine:
- DBH.
 - Basal area
 - Tree age
 - Merchantable height
25. The vertical wood surface that is exposed when a block of wood is split in half through the centerline is the _____ surface.
- Radial
 - Tangential
 - Transverse
 - Cross-sectional
26. Which of the following contains 80 acres?
- NE 1/4 of SE 1/4, Sec 25, T39 S, R 12 E
 - N 1/2 of SW 1/4, Sec 18, T 14 N, R 22 W
 - All of Sec 33, T 18 N, R 19 W
 - E 1/2 of W 1/2 of NW 1/4, Sec 9, T 11 N, R 12 W
27. 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
 - Eliminate air pockets by heeling in the seedlings
 - Only plant seedlings that have soaked in clean water to remove soil particles
28. When planting a farmstead shelterbelt, trees should be planted:
- At least 100 feet from any building
 - Not more than 20 feet from any building
 - Only on the south sides of buildings
 - At least 1/4 mile from any building
29. The scientific name for American elm is *Ulmus americana* where *americana* identifies the _____.
- Species
 - Order
 - Genus
 - Family
30. How many cubic feet of wood, air and bark are in a standard cord?
- 79
 - 100
 - 128
 - 144

31. How many acres are in the eastern 1/2 of section 31?
- 160
 - 320
 - 640
 - 43,560
32. What do closely spaced annual growth rings represent?
- Tall growth.
 - Short growth
 - Slow growth
 - Fast growth
33. You have 889 trees to plant in an acre. What distance in feet should you use between stems to fully plant the acre?
- 7 feet x 7 feet.
 - 8 feet x 8 feet
 - 9 feet x 9 feet
 - 10 feet x 10 feet
34. Deciduous applies to which of the following species?
- Tamarack
 - Pine
 - Spruce
 - Fir
35. Compass readings may be distorted by _____ objects:
- Aluminum
 - Steel
 - Concrete
 - Reflective
36. "Red Fred in the Shed" is a rhyme used to remember how to use a _____.
- Biltmore stick
 - Chain saw
 - Compass
 - Diameter tape
37. Emerald ash borer (EAB) is an invasive forest insect responsible for the death of millions of ash trees throughout portions of the US and Canada. On which continent is the borer a native species?
- Africa
 - Asia
 - Europe
 - North America

38. Which of the following species is most tolerant of shade??

- a. Sugar maple
- b. Yellow birch
- c. Aspen
- d. Norway pine

True or False:

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

True False

- A B 39. Lumber is first cut to a larger dimension to account for shrinkage during drying and planing after drying.
- A B 40. Kerf is the width of a cut made by a saw.
- A B 41. If the bearing to your destination is 50 degrees, the back bearing is 310 degrees.
- A B 42. Sugar maple trees prefer moist, loamy soils for best growth.
- A B 43. White pine is the Minnesota state tree.
- A B 44. Boxelder has an opposite branching pattern.
- A B 45. The fire triangle includes heat, oxygen, and fuel.
- A B 46. Because the pores in the growth rings of red oak are open and porous, the species is suitable for use in making water-tight containers.
- A B 47. Earth's magnetic North Pole has drifted so fast that authorities had to officially redefine its location earlier this year.
- A B 48. A catkin is a slim, wind-pollinated cylindrical flower cluster with petals that are either absent or not clearly visible.
- A B 49. Jack pine is commonly found growing in a wetland.
- A B 50. When scraped, yellow birch twigs have a slight scent of wintergreen.

2019 Forestry Exam Key

1. B
2. C
3. D
4. C
5. A
6. D
7. D
8. D
9. B
10. C
11. D
12. C
13. C
14. D
15. C
16. C
17. A
18. D
19. C
20. B
21. C
22. A
23. B
24. C
25. A
26. A
27. C
28. A
29. A
30. C
31. B
32. C
33. A
34. A
35. B
36. C
37. B
38. A
39. A
40. A
41. B
42. A
43. B
44. A
45. A
46. B
47. A
48. A
49. B
50. A