

**State FFA Forestry 2018 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. A 2,000 square foot, wood framed single family house can use 16,000 board feet of lumber. If the average price of lumber is \$350 per MBF, what is the total cost of wood used for the house?
 - a. \$56,000
 - b. \$5,600
 - c. \$560
 - d. None of the above

2. One hectare of land equals approximately _____ acres.
 - a. 5.2
 - b. 3
 - c. 0.6
 - 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. Cambium
 - d. Sapwood

4. After more than a year of rigorous scientific analysis, discussions with key partners and public input, the Minnesota DNR recently set a new 10-year sustainable timber harvest level for the volume of timber they will offer for sale annually from DNR-managed forest lands. What was that volume?
 - a. 1,000,000 cords
 - b. 930,000 cords
 - c. 870,000 cords
 - d. 700,000 cords

5. The actual dimensions of the board you are measuring are 1-1/2" x 3-1/2" and it is 12' 4" long. How many board feet are in the board?
 - a. 0.45 board feet
 - b. 8 board feet
 - c. 5.4 board feet
 - d. None of the above

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. Which of the following species is used in making barrels for whiskey?
 - a. White oak
 - b. Aspen
 - c. Red oak
 - d. Red pine

8. What is the state tree of Minnesota?
 - a. Blue spruce
 - b. White pine
 - c. Norway pine
 - d. Norway spruce

9. A pile of firewood is 16 feet wide, 4 feet high and 8 feet long. How many cords are in the pile?
 - a. 8
 - b. 4
 - c. 3.5
 - d. 2

10. Which of the following plants has a simple leaf?
 - a. Butternut
 - b. Hackberry
 - c. Green ash
 - d. Black walnut

11. The W $\frac{1}{2}$ of the SW $\frac{1}{4}$ of section 16 contains how many acres?
 - a. 80
 - b. 40
 - c. 160
 - d. 320

12. Which of the following species is the least tolerant (of shade)?
 - a. Yellow birch
 - b. White pine
 - c. Eastern hemlock
 - d. Aspen

13. What landowner group owns and manages the largest percentage of timberland in Minnesota?
- Governmental agencies (federal, state, county, and municipal)
 - Private individuals
 - Forest industry
 - Farmers
14. From a silvicultural standpoint, the harvesting of aspen is best done using the _____ system.
- Group selection
 - Shelterwood
 - Seed tree
 - Clearcutting
15. Which of the following species is the most tolerant (of shade)?
- Sugar maple
 - White birch
 - Red pine
 - Aspen
16. A forester interested in habitat management for deer and ruffed grouse would favor which one of the following species?
- Sugar maple
 - Yellow birch
 - Aspen
 - Norway pine
17. Planting stock (seedlings) used for reforestation should have:
- Only one taproot
 - Fibrous root systems
 - Tall slender stems
 - Large internodes
18. Oriented strand board (OSB) is most often made from which Minnesota species?
- Basswood
 - Balsam fir
 - Aspen
 - Tamarack
19. Which of the following is not one of the basic chemical constituents of wood?
- Lignin
 - Cellulite
 - Cellulose
 - Hemicellulose

20. What is the moisture content (oven dry basis to the nearest 0.1%) of a wood sample that weighs 0.75 pounds when green and 0.32 pounds when oven dried?
- 115.5 %
 - 134.4 %
 - 234.4%
 - 57.3%
21. What is the actual size (thickness and width) of a 2" x 4", dry, surfaced piece of dimension lumber?
- 2" x 4"
 - 1 1/2" x 3 1/2"
 - 1 5/8" x 3 5/8"
 - 1 1/2" x 3 3/4"
22. When is the best time to prune a stand of timber?
- Any time of the year
 - Just before the growing season
 - During the growing season
 - In the fall after the first frost
23. pH is a measure of the degree of acidity or alkalinity of a soil and is expressed as a value from 1 - 14. Which of the following pH values is most acidic?
- 5
 - 6
 - 7
 - 8
24. Which of the following would you use an increment borer to measure?
- D.B.H.
 - Basal area
 - Tree age
 - Merchantable height
25. The vertical wood surface that is exposed when a block of wood is split in half is the _____ surface.
- Radial
 - Tangential
 - Transverse
 - Cross-sectional
26. Which of the following best describes a backfire?
- A fire which runs through the tops of living trees
 - A prescribed fire set to burn against the wind
 - A fire which only burns the back side of trees
 - A fire set outside the perimeter of the main fire by flying sparks or embers

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 ¼ mile from any building
29. The scientific name for butternut is *Juglans cinerea*. *cinerea* identifies the _____.
- Species
 - Order
 - Genus
 - Family
30. A fungus condition, which may cause death or damage to newly emerging seedlings, is called:
- Ground rot
 - Mulching
 - Damping off
 - Heart rot
31. Which of the following would you use a clinometer to measure?
- D.B.H.
 - Basal area
 - Tree age
 - Merchantable height
32. Which of the following species has a serotinous cone, opening when a fire moves through the forest?
- Red pine.
 - White pine
 - Jack pine
 - Basswood
33. 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

34. 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
35. Berry, drupe and pome are types of _____
- Fleshy fruits
 - Dry fruits
 - Aggregate fruit
 - Multiple fruit
36. A _____ is any plant capable of invading bare ground or a heavily disturbed area.
- Climax species
 - Native plant
 - Pioneer species
 - Disturbance species
37. _____ is the productive capacity of a site for a given species.
- Site preparation
 - Silviculture
 - Site index
 - Site capacity
38. What is the width of a cut made by a saw?
- Gap
 - Cant
 - Notch
 - Kerf

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. Minnesota's forest management guidelines include filter strips adjacent to a variety of waterbodies. The primary purpose of the filter strip is to provide wildlife habitat.
- A B 40. FAS and 2 common are hardwood lumber grades.
- A B 41. Boxelder is a kind of maple tree.
- A B 42. The fire triangle includes heat, oxygen, and fuel.
- A B 43. White pine Christmas trees are sheared when dormant.
- A B 44. All stands should be thinned to the minimum recommended stand density.
- A B 45. Habitat will change naturally over time
- A B 46. Pine forests are the most common grouse habitat.
- A B 47. A clearcut is an option for an intermediate harvest.
- A B 48. Gypsy moths only attack ash trees
- A B 49. Thinning to maintain tree vigor and removing dead wood greater than 2 inches in diameter are effective approaches to protect against bark beetles.
- A B 50. 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.

2018
State FFA Forestry Contest – Forestry Written Exam
ANSWER KEY

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