



2021 National FFA Forestry General Knowledge Exam

- Which soil type holds the least amount of water?
 - clay
 - sand
 - loam
 - sandy loam
- A half-section of land contains ___ acres.
 - 40
 - 80
 - 160
 - 320
- The DBH range of trees in sapling stands is:
 - 0" - 5"
 - 5" - 10"
 - 10" - 15"
 - none of the above
- A block of wood 4 inches thick by 6 inches wide and 12 inches long contains ___ board feet of wood volume.
 - one
 - two
 - three
 - four
- Trees that have the largest crowns and are taller than other trees in the stand are called _____ trees.
 - intermediate
 - co-dominant
 - suppressed
 - dominant
- Which one of the following species has opposite leaf arrangement?
 - oak
 - maple
 - hickory
 - sycamore
- The tree tissue responsible for transporting food made in the leaves to the roots is called:
 - xylem
 - cambium
 - phloem
 - bark
- What two measurements are needed to determine the site index of a stand?
 - age and DBH
 - height and DBH
 - DBH and soil index
 - age and height
 - e.

9. The proper distance one should hold a Biltmore stick from their eye is ___ inches.
- a. 15
 - b. 20
 - c. 25
 - d. 30
10. Name the regeneration system where healthy, large-crowned trees are scattered throughout the harvested area to provide seed for the next forest stand.
- a. clearcut
 - b. shelterwood
 - c. seed tree
 - d. single-tree
11. How many seedlings will be planted on one acre at a spacing of 10'x10'?
- a. 302
 - b. 436
 - c. 889
 - d. 1,742
12. A hypsometer measures:
- a. soil moisture
 - b. tree volume
 - c. tree diameter
 - d. tree height
13. The study of forest diseases is called:
- a. dendrology
 - b. forest pathology
 - c. forest entomology
 - d. forest hydrology
14. Log grade is NOT determined by which factor?
- a. length
 - b. diameter
 - c. defects
 - d. age
15. What are the dimensions for a standard cord of wood?
- a. 2 feet high x 4 feet wide x 8 feet long
 - b. 4 feet high x 4 feet wide x 8 feet long
 - c. 4 feet high x 2 feet wide x 8 feet long
 - d. 4 feet high x 4 feet wide x 4 feet long
16. The term that describes the decreasing size in a tree's diameter as one travels up the stem.
- a. taper
 - b. sweep
 - c. wane
 - d. lean
17. The best time to regenerate a forest by hand or machine planting is:
- a. late fall or winter
 - b. late winter or early spring
 - c. spring
 - d. summer

18. A person took a total of 80 paces to travel a 100-foot distance four times. What is the person's pace length?
- a. 5.0 feet
 - b. 5.5 feet
 - c. 6.0 feet
 - d. 6.5 feet
19. DBH refers to a height ___ inches from the ground:
- a. 42
 - b. 48
 - c. 54
 - d. 60
20. Pulpwood is the term used for wood primarily cut for what product?
- a. firewood
 - b. veneer
 - c. lumber
 - d. paper products
21. Creosote, Penta, CCA and copper naphthenate are all chemicals which have been used in:
- a. making paper
 - b. preserving wood
 - c. herbicides
 - d. insecticides
22. Drupe, pome, achene, and samara all refer to:
- a. tree flowering
 - b. tree fruit
 - c. tree leaves
 - d. tree orders
23. Science dealing with the measurement of volume, growth and development of individual trees and stands, and the determination of the various products obtainable from them is:
- a. silviculture
 - b. ecology
 - c. pathology
 - d. mensuration
24. Mounds of soil used to divert run-off water off woods roads are called:
- a. road terraces
 - b. water bars
 - c. high boys
 - d. diversion ditches
25. The angular difference between magnetic north and true north is called what?
- a. bearing
 - b. azimuth
 - c. declination
 - d. none of the above
26. What part of a timber sale contract depends upon the property boundaries?
- a. Preamble
 - b. Description of sale area
 - c. Conditions of payment
 - d. Designation of which trees to cut

27. If you are traveling an azimuth of 135, you are headed in a _____ direction.
- | | |
|--------------|--------------|
| a. Northwest | c. Southeast |
| b. Northeast | d. Southwest |
28. What is the form class of a tree 18 inches in dbh and 15 inches in diameter inside bark at the top of the first 16-foot log?
- | | |
|---------|---------|
| a. 83 | c. 1.20 |
| b. .083 | d. .120 |
29. Which specie and bark type is incorrect?
- | | |
|-------------------------------|------------------------|
| a. American Beech – Smooth | c. Birch - Plated |
| b. Eastern White Pine – Scaly | d. Black Oak –Furrowed |
30. An insect that belongs to the coleoptera order, and feeds on plant and animal matter.
- | | |
|----------------|-------------------------|
| a. Gypsy Moth | c. Southern Pine Beetle |
| b. Pine Sawfly | d. Cicadas |
31. Which of the following is NOT an angiosperm?
- | | |
|---------|------------|
| a. Oaks | c. Firs |
| b. Elms | d. Hickory |
32. _____ - leaflets are laterally attached along each side of the rachis. Example: Hickory.
- | | |
|-----------------------|-------------------------|
| a. Palmately Compound | c. Bipinnately Compound |
| b. Pinnately Compound | d. Simple |
33. The standard scale for a 7.5 minute topo map is _____.
- | | |
|--------------|----------------------|
| a. 1:24,000 | c. 1:63,360 |
| b. 1:250,000 | d. none of the above |
34. The sum of the plot area sampled should represent _____ percent of the total area of tracts under 300 acres.
- | | |
|-------|-------|
| a. 50 | c. 30 |
| b. 40 | d. 20 |
35. The sale of timber creates capital gains income.
- | |
|----------|
| a. True |
| b. False |

36. _____ and _____ are the main constituents of wood.
- a. carbohydrates / starches
 - b. starches / cellulose
 - c. cellulose / carbohydrates
 - d. lignin / cellulose
37. The type of fruit produced by a tree is determined by the nature of the _____.
- a. leaf
 - b. bark
 - c. ovary
 - d. root system
38. What is the correct order?
- a. Class, Genus, Species, Order
 - b. Order, Species, Genus, Class
 - c. Family, Genus, Species, Kingdom
 - d. Order, Family, Genus, Species
39. Which of the following is NOT a biological factor affecting a tree's environment?
- a. Pyric Activity
 - b. Fungi
 - c. Small animal life
 - d. Microorganisms
40. Broadleaf trees generally represent which of the following strata in a forest?
- a. canopy
 - b. herb layer
 - c. understory
 - d. shrub layer
41. The population of plants that occupies an environment when the succession of plant species is complete and the plant population has stabilized is known as a:
- a. terminal forest
 - b. pioneer species
 - c. climax community
 - d. boreal forest
42. A permeable structure found in plant cells that restrict the kind of materials that can enter a cell is the:
- a. nucleoplasm
 - b. cell membrane
 - c. cell wall
 - d. vacuole
43. A high-energy molecule that is formed during the first light reaction of photosynthesis is:
- a. NADPH
 - b. ATP
 - c. cellulose
 - d. chlorophyll

44. Which of the following natural cycles is NOT an elemental cycle?
- a. carbon cycle
 - b. nitrogen cycle
 - c. water cycle
 - d. oxygen cycle
45. A fruiting body is:
- a. a structure that produces spores that develop into fungi
 - b. a fleshy structure that surrounds the seeds of a plant
 - c. a thin strand of fungal tissue that enters tree roots, infecting them with disease organisms
 - d. a structure on a tree leaf in which sap become fermented to produce honeydew
46. Some kinds of plant release chemicals into the area close around them that provide small doses of poison to young plants that invade their territory. This defensive plant response is known as:
- a. germicide
 - b. herbicide
 - c. allelopathic effect
 - d. chemical warfare
47. A timber harvest operation in which entire trees are processed in the forest to produce biomass is called:
- a. debarking
 - b. bucking
 - c. chaining
 - d. chipping
48. A firestorm is caused by:
- a. ash that has drifted down from the atmosphere above the fire
 - b. a thunderstorm
 - c. erratic winds that move the fire into the forest canopy where there is plenty of fuel
 - d. lightning strikes
49. A pulping process in which wood fibers are separated by dissolving the lignin that cements them together is called:
- a. hydra pulping
 - b. chemical pulping
 - c. mechanical pulping
 - d. disk refining
50. A tensiometer is an instrument that is used to:
- a. calculate the strength of a tree
 - b. measure the purity of irrigation water by testing the surface tension of water
 - c. estimate the flexibility of tree limbs
 - d. measure the water content of soil



CAREER DEVELOPMENT EVENT

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Knowledge Exam Key

| Question | Answer | Point | Standard |
|----------|--------|-------|-----------|
| 1. | B | 2 | CS.04.01 |
| 2. | D | 2 | ESS.05.01 |
| 3. | A | 2 | NRS.01.02 |
| 4. | B | 2 | NRS.01.02 |
| 5. | D | 2 | NRS.01.05 |
| 6. | B | 2 | NRS.01.02 |
| 7. | C | 2 | PS.02.02 |
| 8. | D | 2 | NRS.01.02 |
| 9. | C | 2 | ESS.01.02 |
| 10. | C | 2 | NRS.01.05 |
| 11. | B | 2 | NRS.01.02 |
| 12. | D | 2 | CS.03.04 |
| 13. | B | 2 | NRS.04.03 |
| 14. | D | 2 | NRS.01.02 |
| 15. | B | 2 | NRS.01.02 |
| 16. | A | 2 | NRS.01.02 |
| 17. | A | 2 | NRS.03.01 |
| 18. | A | 2 | ESS.05.01 |
| 19. | C | 2 | NRS.01.02 |
| 20. | D | 2 | NRS.01.05 |
| 21. | B | 2 | NRS.02.04 |
| 22. | B | 2 | NRS.01.02 |
| 23. | D | 2 | ESS.05.01 |
| 24. | B | 2 | NRS.01.01 |
| 25. | C | 2 | ESS.05.01 |
| 26. | B | 2 | NRS.02.04 |
| 27. | C | 2 | ESS.05.01 |
| 28. | A | 2 | NRS.01.02 |

| Question | Answer | Point | Standard |
|----------|--------|-------|-----------|
| 29. | C | 2 | NRS.01.02 |
| 30. | C | 2 | NRS.01.02 |
| 31. | C | 2 | NRS.01.02 |
| 32. | B | 2 | NRS.01.02 |
| 33. | A | 2 | ESS.05.01 |
| 34. | D | 2 | NRS.01.02 |
| 35. | A | 2 | NRS.02.04 |
| 36. | D | 2 | PS.02.02 |
| 37. | C | 2 | PS.02.02 |
| 38. | D | 2 | PS.02.02 |
| 39. | A | 2 | NRS.01.05 |
| 40. | A | 2 | NRS.01.05 |
| 41. | C | 2 | PS.02.02 |
| 42. | B | 2 | PS.02.02 |
| 43. | B | 2 | CS.06.01 |
| 44. | C | 2 | PS.02.02 |
| 45. | A | 2 | NRS.04.03 |
| 46. | C | 2 | NRS.03.01 |
| 47. | D | 2 | NRS.04.04 |
| 48. | A | 2 | NRS.02.04 |
| 49. | B | 2 | NRS.02.04 |
| 50. | D | 2 | CS.03.04 |