

**2018 National FFA Forestry
Career Development Event
Knowledge Exam**

Directions: Select the best answer and bubble it in on the score sheet provided. You may write on test booklet, if needed.

1. An example of a job performed by a forester with a Bachelor of Science (undergraduate) degree is _____. (KI, p.38) CS.05.01.02.a
 - a. Research Scientist
 - b. Urban Forester
 - c. Forestry Technician
 - d. Fire Fighter
2. The smallest portion of timberlands in the United States belongs to _____. (KI, p.31) NRS.02.04.02.b
 - a. Private Landowners
 - b. Public Lands
 - c. Forest Industry
 - d. Wilderness Areas
3. Several layers of vegetation found in a forest is called the _____. (FS, p.6) NRS.01.05.01.b
 - a. Strata
 - b. Canopy
 - c. Herb layer
 - d. Shrubs
4. An example of a nonrenewable resource is _____. (FS, p.11) PST.01.01.01.a
 - a. Forest
 - b. Wildlife
 - c. Coal
 - d. Crops
5. _____ are considered to be better sources for fuelwood. (FS,p.15) PST.01.01.01.a
 - a. Softwoods
 - b. Hardwoods
 - c. Low-density woods
 - d. Medium density woods
6. _____ is the movement and removal of soil caused by human and animal activities, or catastrophic natural events. (KI, p. 5) CS.04.01.01.b
 - a. Erosion
 - b. Natural Erosion
 - c. Accelerated Erosion
 - d. Soil Degradation
7. _____ is an obligate parasite, and while trees usually do not die from the infestation, their growth is restricted. (KI, p.129) NRS 04.02.01.a
 - a. Slime Flux
 - b. Rust
 - c. Nematode
 - d. Heart Rot
8. Which is not a degree of relative crown density? (FF, p. 123) NRS.01.05.01.b
 - a. Thin
 - b. Closed
 - c. Open
 - d. Partial
9. What is the rotating ring on a compass, graduated from zero to 360 degrees, and labeled with cardinal directions and quadrants called? (KI, p. 7) NRS.03.02.01.a
 - a. Dial
 - b. Bezel
 - c. Hozzle
 - d. Ring

10. Which tree species produce achene fruit? (KI, p.75) NRS.01.02.01.b
- a. Ash
 - b. Sycamore
 - c. Black Cherry
 - d. Black Walnut
11. The _____ is sometimes known as the boreal forest. (FS,p.28) NRS.01.05.03.c
- a. Northern Hardwoods Forest
 - b. Pacific Coast Forest
 - c. Bottomland Hardwood Forest
 - d. Northern Coniferous Forest
12. A _____ is formed through meiosis consists of one chromatid from each original chromosome pair. (FS, p.119) PS.02.02.01.b
- a. Haploid cell
 - b. Diploid cell
 - c. Tetrad cell
 - d. Mother cell
13. A forest that has been regenerated from the roots, stumps, or branches of other trees is known as a _____. (FS,p.122) NRS.01.01.01c
- a. High forest
 - b. Low forest
 - c. Bottom forest
 - d. Canopy forest
14. Which of the following DOES NOT influence the color of soil? (FS,p.136) CS.04.01.01.b
- a. Amount of organic matter
 - b. Drainage of the soil
 - c. Minerals in the soil
 - d. Amount of silt
15. Illuviation, the buildup of translocated soil components, is located in the _____. (FS,p.139) CS.04.01.01.b
- a. A soil horizon
 - b. B soil horizon
 - c. C soil horizon
 - d. E soil horizon
16. Pulpwood being processed for paper is debarked then chipped into pieces about _____ in size. (KI, p. 34) CS.02.02.02c
- a. 1
 - b. 2
 - c. 3
 - d. 4
17. The price of timber sold may be established in all except? (FF, p. 200) NRS.02.04.02.b
- a. Diameter
 - b. Tree Scale
 - c. Load Scale
 - d. Lump Sum
18. To use the _____, a forester pushes or drives the cutting edge through the bark until it reaches wood, then pushes the guard against the tree or log for a measurement. (KI, p.93) ESS.01.02.02.a
- a. Bark Gauge
 - b. Increment Borer
 - c. Tree Caliper
 - d. Soil Auger

19. Which of the following is not considered a natural firebreak? (FF, p. 320) NRS.04.04.01.b
- a. Streams
 - b. Logging Roads
 - c. Wind breaks
 - d. Highways
20. A complete soil profile includes these horizons in what order? (FS,p.139) CS.04.01.01.b
- a. A,B,C,E,O,R
 - b. B,A,C,O,E,R
 - c. O,A,E,B,C,R
 - d. R,O,A,C,E,B
21. _____ are responsible for heart rot. (FS,p.159) NRS.04.02.01.a
- a. Bacteria
 - b. Fungi
 - c. Viruses
 - d. Microplasmas
22. _____ include damage caused to trees by conditions such as drought, heat, cold and other conditions, they are not contagious, but they may affect large number of trees in an area. (FS,p.166) NRS.04.02.01.a
- a. Abiotic diseases
 - b. Biotic diseases
 - c. Fungus
 - d. Parasites
23. _____ is a method of controlling harmful insects and is proving to be a more practical approach to insect control.(FS,p.181) NRS.04.03.01.a
- a. Mechanical control
 - b. Chemical control
 - c. Genetic engineering
 - d. Integrated pest management
24. What causes the largest impact to species that have been listed on the threatened and endangered list?(FS,p.202) NRS.03.01.07.a
- a. Regulated hunting
 - b. Illegal killing
 - c. Landscape alteration
 - d. Competition from introduced species
25. _____ maps are color-enhanced photographic images that show land features. (KI, p.141) NRS.03.02.01.a
- a. Orthophoto
 - b. Physical
 - c. Relief
 - d. Road
26. Which species of wood does not have the most notable effects of spalting? (KI, p. 48) NRS.02.04.01.a
- a. Red Maple
 - b. Black Birch
 - c. American Beech
 - d. Yellow Poplar
27. Which species has the highest heating value per standard green cord? (FF, p. 371) PST.01.01.01a
- a. Hickory
 - b. White Oak
 - c. Red Maple
 - d. Eastern Cottonwood
28. The major commercial use for mushrooms is _____. (KI, p. 51) NRS.02.04.01.a
- a. Toxin control
 - b. Dyes for textiles
 - c. Medical Research
 - d. Food

29. Magnetic North is continually shifting, so a compass must be adjusted using _____ / _____ declination. (KI, p. 146) NRS.03.02.01.a
- a. North / South
 - b. East / West
 - c. South / West
 - d. North / West
30. The _____ is made up of trees, shrubs, and vines growing beneath the canopy. (KI, p. 60) NRS.01.05.03.c
- a. Emergent Layer
 - b. Canopy Layer
 - c. Understory Layer
 - d. Forest Floor
31. Some kinds of plants maintain their dominance over other plants by releasing chemicals into the area close around them that provide small doses of poison to invading plants. This is called _____. (FS,p.221) NRS.01.05.03.c
- a. Allelopathic effect
 - b. Adaptive behavior
 - c. Carbonization process
 - d. Dendrification
32. The first priority in any fire suppression effort is _____. (FS,p.294) NRS.04.04.01.b
- a. Fire crew safety
 - b. Evaluating the value of recourses threatened
 - c. Evaluating the availability of firefighting resources
 - d. Deciding whether to suppress the fire or letting it burn
33. Which of the following terms best describes the mode of action of a firefighter who is setting backfires during a wildfire? (FS,p.297) NRS.04.04.01.b
- a. Direct attack
 - b. Incendiarism
 - c. Indirect attack
 - d. Prescribed burn
34. Resin ducts are openings in the wood through which resin moves within a live tree. They are present in _____.(FS,p.331) PS.02.02.03.a
- a. Softwoods
 - b. Hardwoods
 - c. Heartwood
 - d. Sapwood
35. The density of wood depends on the ratio of _____ to the volume of wood. (FS,p.331) PS.02.02.03.a
- a. Weight of wood
 - b. Cell wall material
 - c. Texture of wood
 - d. Plant vascular tissue
36. _____ is site preparation that effectively clears a site of unwanted vegetation and woody debris with minimal soil disturbance. (KI, p.107) NRS.03.01.01.c
- a. Chemical
 - b. Mechanical
 - c. Prescribed Burning
 - d. Clearcutting
37. _____ is a lengthwise separation of the wood, which usually extends across the rings of annual growth, commonly resulting from stresses set up in wood during seasoning. (FF, p. 460) PS.02.02.03.a
- a. Cant
 - b. Catface
 - c. Check
 - d. Conk

38. Trees directly influence the yield of a watershed by extracting water from the soil by _____. (KI, p. 63) PS.01.01.03.b
- a. Osmosis
 - b. Diffusion
 - c. Capillary Action
 - d. Transpiration
39. _____ thinning is useful in plantations because of their planting layout of rows and space within the row. (KI, p.109) NRS.03.01.01.c
- a. Geometric
 - b. Commercial
 - c. Pre-commercial
 - d. Crown
40. If a sample plot is $\frac{1}{4}$ acre in size, what is the plot radius? (KI, p. 147) ESS.05.01.01.c
- a. 37.25 feet
 - b. 52.7 feet
 - c. 58.9 feet
 - d. 66 feet
41. Windbreaks should be long in relation to their height; a _____ ratio is recommended. (KI, p. 63) NRS.04.01.02.c
- a. 2:1
 - b. 5:1
 - c. 10:1
 - d. 12:1
42. The _____ migrated to the United States from France, and now infests white and red oak trees in the Northeast. (KI, p.121) NRS.04.03.01.a
- a. Tent Caterpillar
 - b. Gypsy Moth
 - c. Douglas Fir Tussock Moth
 - d. Spruce Budworm
43. Which of the following snakes is not a pit viper? (KI, p. 163) NRS.01.02.03.b
- a. Rattlesnake
 - b. Cottonmouth
 - c. Copperhead
 - d. Coral Snakes
44. Which of the following is not a characteristic of an angiosperm? (KI, p. 70) NRS.01.02.01.b
- a. Broadleaves
 - b. Dry or Fleshy Fruit
 - c. Dendritic
 - d. Resin Ducts
45. According to OSHA, ear muffs or plugs are required for workers exposed to _____ decibels per hour or higher. (KI, p. 166) CS.03.04.01.a
- a. 75
 - b. 85
 - c. 95
 - d. 105
46. Which species and bark type is incorrect? (KI, p. 74) NRS.01.02.01.b
- a. American Beech – Smooth
 - b. Eastern White Pine – Scaly
 - c. Hickory – Blocky
 - d. Black Oak – Furrowed
47. How many seedlings are needed to plant 10 acres at 6' x 8'? (FF, p.175) NRS.04.01.02.c
- a. 480
 - b. 9075
 - c. 10000
 - d. 210

48. _____ is a chemical that kills fungi or prevents them from causing diseases, usually on plants of economic importance. (FF, p. 465) NRS.04.02.01.a

- a. Pesticide
- b. Fungicide
- c. Insecticide
- d. Rodenticide

49. Axial parenchyma cells originate from the _____ forming a network of living cells around the tree. They transport sugars (food) to the parenchyma cells within the growth ring, and they store starch. PS.02.02.01.c

- a. Heartwood
- b. Cambium
- c. Sapwood
- d. Seriate

50. _____ are unthickened portions of cell walls through which sap passes from ray cells to fibers, or vice versa. (FF, p. 229) PS.02.02.01.c

- a. Bordered Pits
- b. Medullary Rays
- c. Vertical Resin Duct
- d. Simple Pits

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Burton, L. D. 2000. Introduction to Forestry Science. Delmar. (FS)
Rolfe, G. L., Edgington, J., Holland, I., & Fortenberry, G. 2003. Forests and Forestry. Interstate Publishing. (FF)

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