

2024 AREA V ENVIROTHON: FORESTRY

1. Approximately what percentage of Ohio is forested today?
 - A. 10%
 - B. 30%
 - C. 40%
 - D. 70%
2. Best Management Practices (BMPs) in forestry involve the reduction or elimination of soil erosion during silvicultural operations. These include:
 - A. Taking the most direct route from the log landing to the harvesting site to minimize soil disturbance.
 - B. Using pole-sized trees to create a bridge across large, intermittent streams.
 - C. Not using bumper trees to minimize damage to the residual stand.
 - D. Using natural breaks in the contour to control the movement of water.
3. Using the chart below, determine how many water bars need to be installed for a 520-foot stretch of skid road with a 25% grade.
 - A. 13
 - B. 9
 - C. 20
 - D. 15

Slope	Distance between water bars
2 %	250 ft.
5 %	135 ft.
10 %	80 ft.
15 %	60 ft.
20 %	45 ft.
25 %	40 ft.
30 %	35 ft.

4. Trees can have opposite or alternate branching patterns. Which of the following trees have opposite branching?
 - A. Maple, sassafras, blackgum, dogwood
 - B. Ash, oak, sycamore, ailanthus
 - C. Dogwood, ash, maple, buckeye
 - D. Walnut, sycamore, buckeye, American beech

5. Forested areas along streams and rivers lower water temperature, provide unique habitat for both aquatic and terrestrial plants and animals, and help improve water quality by trapping pollutants before they can enter the water. What are these forested areas called?
 - A. Aquatic forests
 - B. Hydric forests
 - C. Riparian forests
 - D. Streamside management zones

6. Wildfires in Ohio are predominantly caused by:
 - A. Lightning
 - B. Unattended campfires
 - C. Burning of yard waste
 - D. Cigarettes

7. Which is an example of even-aged forest management?
 - A. Group selection
 - B. Single-tree selection
 - C. Clearcut
 - D. Diameter limit harvest

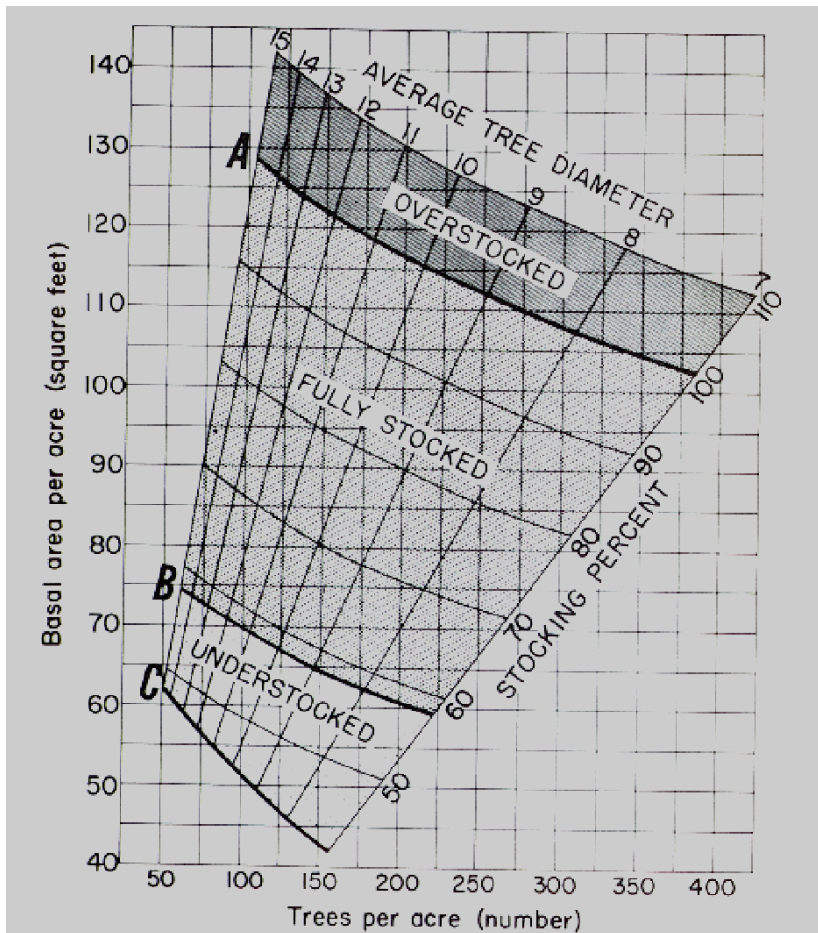
8. Which of the following tree species is the most shade-tolerant?
 - A. Yellow poplar (*Liriodendron tulipifera*)
 - B. American beech (*Fagus grandifolia*)
 - C. Black walnut (*Juglans nigra*)
 - D. Chestnut oak (*Quercus montana*)

9. As the living tissues within a tree die, they aren't shed the way that humans shed skin cells. Instead, they become part of the tree protecting it or supporting it. When the phloem dies, it becomes?
 - A. Bark
 - B. Sapwood
 - C. Roots
 - D. Heartwood

10. Carbon dioxide is the main greenhouse gas emitted by humans. Forests as a whole store much more carbon than they produce. This carbon storage helps offset some of the United States' greenhouse gas emissions. In an individual forest tree, carbon storage occurs in:
 - A. Foliage, seeds, bark, stumps, trunks
 - B. Mycelia, branches, trunk, foliage, bark
 - C. Xylem, stump, soil, foliage, roots
 - D. Roots, cambium, stems, branches, mycelia

11. Use the Upland Central Hardwood Stocking Guide provided below for the following question. A landowner asks you to determine if their 30-acre hardwood stand would benefit from a thinning. Trees in this stand, on average, are 9 inches in diameter (DBH). The basal area is 110 square feet per acre. What is the stand's stocking level and approximately how many trees per acre are present?

- A. The stand is fully stocked with approximately 250 trees per acre.
- B. The stand is overstocked with approximately 275 trees per acre.
- C. The stand is fully stocked with approximately 125 trees per acre.
- D. The stand is understocked with approximately 115 trees per acre.



12. In recent years, wildfires have been increasing in size and severity, threatening human life and development and wildlife habitat. A tool that forest and fire managers use to reduce the risk of unplanned fires is prescribed fires. Fighting fire with fire has many benefits. Prescribed fires can do all of the following **EXCEPT**:

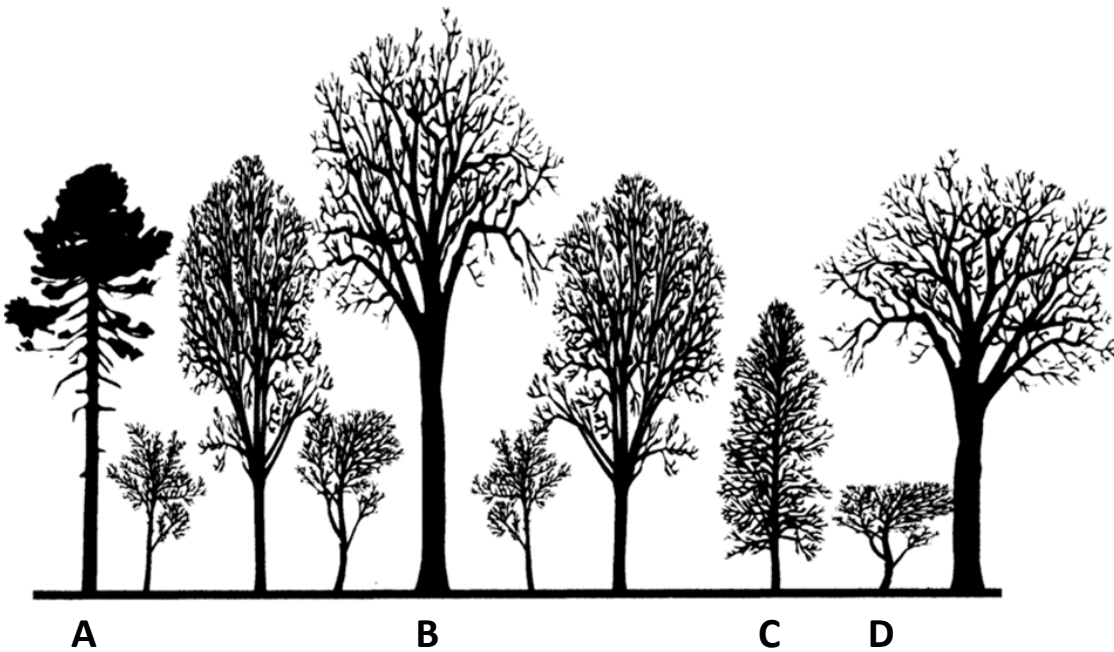
- A. Improve wildlife habitat
- B. Promote the growth of trees, wildflowers, and other plants
- C. Eliminate the risk of wildfires in the area
- D. Recycle nutrients back into the soil

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- B. Mycelia, branches, trunk, foliage, bark
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14. In the image below, the trees labeled A and D are:

- A. Dominant (A) and Intermediate (D)
- B. Co-dominant (A) and Suppressed (D)
- C. Co-Dominant (A) and Intermediate (D)
- D. Dominant (A) and Suppressed (D)



15. Tree of Heaven is a primary host plant for which invasive insect?
- A. Spongey Moth
 - B. Emerald Ash Borer
 - C. Asian Longhorn Beetle
 - D. Spotted Lantern Fly
16. If white pines appear whitewashed starting around the middle of the tree. The white appearance indicates an infestation in the pine planting. What causes the white appearance on the stems?
- A. Pine Bark Adelgid
 - B. Lichen
 - C. Woolly Pine Adelgid
 - D. Pine Bark Fungi
17. A massive black oak with its wide spreading canopy indicates what about the previous land use of this site?
- A. This area was previously forested.
 - B. This area was previously pastured.
 - C. This area was previously strip mined.
 - D. This was a residential area.
18. Identify tree species of Tree #1.
- A. Black Gum
 - B. Sassafras
 - C. Cottonwood
 - D. Swamp White Oak
19. What is the DBH (to the nearest inch) of Tree #1?
- A. 22 inches
 - B. 26 inches
 - C. 30 inches
 - D. 36 inches
20. Approximately, how many merchantable logs are in Tree #1?
- A. 1 log
 - B. 1.5 logs
 - C. 2 logs
 - D. 2.5 logs

21. Given the two previous answers, how many merchantable Board Feet (Doyle Scale) are in Tree #1?

- A. 170
- B. 260
- C. 360
- D. 630

22. What invasive forest pest is affecting the tree species labeled Tree #2?

- A. Eastern Tent Caterpillar
- B. White Pine Blister Rust
- C. Spotted Lanterfly
- D. Hemlock Woolly Adelgid

23. What is the non-native invasive species labeled #3?

- A. Chinese Privet
- B. Glossy Buckthorn
- C. Sugar Maple
- D. Bush Honeysuckle

24. What is one thing that Ohio can do to increase the amount of renewable/sustainable resources available for future generations?

- A. Create wetlands
- B. Plant more trees
- C. Improve wildlife habitat
- D. All of the above

25. Which one of the following is a sustainable and renewable resource?

- A. Oil
- B. Gas
- C. Coal
- D. Wood

Table 1. Standing Tree Board Foot Volumes—Doyle Rule

Dbh (inches)	Number of 16-Foot Logs							
	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Board Feet								
12	20	30	40	50	60			
14	30	50	70	80	90	100		
16	40	70	100	120	40	160	180	190
18	60	100	130	160	200	220	40	160
20	80	130	180	220	260	300	320	360
22	100	170	230	280	340	380	420	460
24	130	220	290	360	430	490	540	600
26	160	260	360	440	520	590	660	740
28	190	320	430	520	620	710	800	880
30	230	380	510	630	740	840	940	1,040
32	270	440	590	730	860	990	1,120	1,220
34	300	510	680	850	1,000	1,140	1,300	1,440
36	350	580	780	970	1,140	1,310	1,480	1,640
38	390	660	880	1,100	1,290	1,480	1,680	1,860
40	430	740	990	1,230	1,450	1,660	1,880	2,080
42	470	830	1,100	1,370	1,620	1,860	2,100	2,320

From: Ashley, Burl S. 1980. Reference handbook for foresters. USDA NA-FR-15. 35 pp.

Source: <https://ohioline.osu.edu/factsheet/F-35-02>

Answer Key

1. B
2. D
3. A
4. C
5. C
6. C
7. C
8. B
9. A
10. A
11. B
12. C
13. A
14. B
15. D
16. A
17. B
18. D
19. B
20. B
21. C
22. C
23. A
24. D
25. D