

Forestry Ecostation Test

Area 3 Envirothon – Jefferson Sportsman Club, Jefferson County

April 26, 2017

1. When cutting through a tree with a saw you would pass through the following tissues in which order:
 - A. Bark, Xylem, Phloem, Cambium, Heartwood
 - B. Bark, Cambium, Xylem, Phloem, Heartwood
 - C. Bark, Cambium, Phloem, Heartwood, Xylem
 - D. Bark, Phloem, Cambium, Xylem, Heartwood

2. Different timber harvesting methods are used based on the current condition of the timber stand and the landowner's or Forester's desired outcome. Which of the following methods of timber harvesting will result in an un-even aged stand:
 - A. Single-tree selection cutting
 - B. Seed tree cutting
 - C. Clear cutting
 - D. Shelterwood cutting

3. Foresters often use the term Silviculture. Silviculture is defined as:
 - A. The history of our forest lands
 - B. A method of harvesting timber
 - C. The art and science of growing trees
 - D. A forest management tool to increase wildlife

4. Timber harvesting is a common practice in Ohio. Bulletin 916 – *BMP's for Erosion Control for Logging Practices in Ohio* was developed to reduce the environmental impact on water quality for the logging industry.

At the close of a timber sale it is critical that the site be stabilized in order to minimize future soil erosion issues. Haul roads, skid trails and landings are to be seeded and water bars installed on all roads that will not have vehicle traffic.

You are responsible for installing the water bars on a skid trail that has a slope of 20%.

Which of the following is a component of a correctly installed water bar on this skid trail?

- A. The water bar should be a minimum of six inches in height.
- B. The uphill end of the water bar should tie into the bank.
- C. The water bar should be parallel to the road.
- D. The water bar should be spaced 250 away from the next water bar.

5. Best Management Practices (BMP's) for Forestry involve the reduction or elimination of soil erosion. These include:
- A. Using stream beds where practical for long distance travel.
 - B. Using natural breaks in the contour to control water movement.
 - C. Taking the most direct route to the cutting area to minimize soil disturbance.
 - D. Not using 'bump trees' to minimize damage to residual trees.
6. You can think of trees in the forest as a garden. In the forest, the best way to maximize wood volume growth is to:
- A. Use a fertilizer and broadcast it uniformly throughout the forest
 - B. Allow livestock grazing to remove the undesirable understory
 - C. Ensure that adequate moisture is available to the stand
 - D. Eliminate competition in the crown space of the dominant and co-dominant trees
7. Which of the following is NOT generally accepted as a sound silvicultural practice in Ohio's hardwood forests?
- A. Clearcut harvest
 - B. Shelterwood harvest
 - C. Single-tree selection harvest
 - D. Diameter limit harvest
8. *Ohio Senate Bill 150* was passed in August of 2014 and provides the state with tools to continue to serve a growing population while protecting Ohio's natural resources. Beginning September 30, 2017, Ohio Senate Bill 150 prohibits which of the following:
- A. A person from applying fertilizer to their yard unless that person has been certified to do so by the Director of Agriculture or is acting under the instructions and control of a person who is certified.
 - B. A person from applying fertilizer to their garden unless that person has been certified to do so by the Director of Agriculture or is acting under the instructions and control of a person who is certified.
 - C. A person from applying fertilizer for the purposes of agricultural production on 50 acres or more unless that person has been certified to do so by the Director of Agriculture or is acting under the instructions and control of a person who is certified.
 - D. A person from placing tree tops in a stream channel as part of a timber harvest.
9. Timber volume is expressed in Ohio by the board foot. As an example a board equaling one board foot in volume would be a board of what size?
- A. 12 inches X 12 inches X 12 inches
 - B. 12 inches X 12 inches X 6 inches
 - C. 12 inches X 12 inches X 1 inch
 - D. 6 inches X 12 inches X 6 inches

10. If a tree to be harvested for timber is said to have a merchantable height of 3.5 logs, what is the total length of merchantable logs?
- A. 56 ft.
 - B. 28 ft.
 - C. 35 ft.
 - D. 48 ft.
11. Most soil in Eastern Ohio is lost through erosion due to water. Using the information below calculate how many tons of topsoil per acre would be lost if a logging company chooses to ignore best management practices and the subsequent water erosion causes a landowner to lose 1/16" of topsoil off an acre.
- One acre of land contains 43,560 square feet
 - 1/16" or 1/192' or .0052 foot
 - 1 cubic foot of loose topsoil weighs approximately 75 lbs.
 - 2,000 lbs. = 1 ton
- The landowner would be losing approximately:
- A. 1.5 tons per acre
 - B. 8.5 tons per acre
 - C. 3 tons per acre
 - D. 80 tons per acre
12. The invasive insect Emerald Ash Borer (EAB) is devastating the ash trees in this region right now. The trees die as a result of:
- A. the adult ash borer beetle feeding on the leaves of the trees.
 - B. holes bored into the trunk of the tree by the beetle where the female borer lays her eggs.
 - C. larvae feeding on the bark of the tree essentially stripping the tree of its protection.
 - D. larval damage to the phloem and xylem that make up the circulatory system of a tree.

The following questions are site specific and your test site assistant will direct you to the sites in question

13. This tree is valuable for timber and is also used for baseball bats and gym flooring. What species is it?
- A. soft maple
 - B. ash
 - C. hard maple
 - D. red oak
14. Use the tree scale stick provided to determine the diameter at breast height (DBH) of this same tree. The diameter is:
- A. 15 inches
 - B. 20 inches
 - C. 24 inches
 - D. 16 inches

15. This tree is dying rapidly due to an invasive species. It is valuable for tool handles and baseball bats, among other things. What species is it?
- A. soft maple
 - B. ash**
 - C. hard maple
 - D. red oak
16. This tree is frequently the most valuable species of timber grown in Ohio. It has an alternate leaf arrangement that is pinnately compound. This tree is a:
- A. black walnut**
 - B. butternut
 - C. hickory
 - D. ash
17. This tree is often found dead in the woods with the bark all falling off of it. It dies from an invasive fungus, but most people think it doesn't exist anymore, despite being prevalent in the woods. This tree is:
- A. red elm
 - B. blackgum
 - C. sassafras
 - D. American elm**
18. This valuable timber tree is the same species as question #16. Using the tree scale stick provided, what is the diameter at breast height (DBH) of this tree?
- A. 19 inches
 - B. 24 inches
 - C. 28 inches**
 - D. 32 inches
19. Using this same tree and the tree scale stick provided, determine the number of merchantable logs in this tree.
- A. 3 logs
 - B. 2 logs**
 - C. 4 logs
 - D. 5 logs
20. Using your answers from Questions # 18 and 19, and the tree scale stick provided, what is the merchantable volume of this tree?
- A. 551 board feet**
 - B. 225 board feet
 - C. 750 board feet
 - D. 370 board feet

21. Using your answers from Questions #16 and 20, determine the timber value of this tree. Use the provided timber price report from January 31, 2017, Stumpage Value for Northeast Ohio. This tree is worth approximately:
- A. \$675 – \$1875
 - B. \$496 – \$1378
 - C. \$333 – \$925
 - D. \$203 – \$563
22. This tree is somewhat uncommon, but is characterized by its warty appearing bark. It has little timber value due to being a very plain looking and soft wood. It is:
- A. hickory
 - B. serviceberry
 - C. elm
 - D. hackberry
23. This non-native invasive shrub can wreak havoc on the forest community as it displaces native vegetation, produces a chemical to slow the growth of the existing trees, and causing so much shade that soil erosion is an issue. This shrub is:
- A. privet
 - B. multiflora rose
 - C. bush honeysuckle
 - D. autumn olive
24. This non-native invasive tree grows very rapidly and a mature female tree can produce over 1,000,000 seeds each year. These wind-borne seeds as well as significant root sprouting cause it to spread rapidly. This tree is:
- A. sumac
 - B. box elder
 - C. tree-of-heaven
 - D. elderberry
25. This native small tree is common in old fields and woodland edges. Its red berry is very high in vitamin C. When crushed, the stem produces a milky sap. This tree is:
- A. sumac
 - B. box elder
 - C. tree-of-heaven
 - D. elderberry

26. This tree is a black cherry. You may notice some defects in the tree. Despite these defects, the tree still has value. What value does this tree hold?
- A. high value timber
 - B. wildlife cavity nesting and soft mast production
 - C. veneer
 - D. mine timbers
27. This tree has a very characteristic bark. It also produces fruit that is edible to humans and wildlife. Though the wood is not often commercially available, it is very hard and was once used for golf club heads. This tree is:
- A. blackgum
 - B. dogwood
 - C. hickory
 - D. persimmon
28. This tree is often found dead in the woods with the bark all falling off of it. It dies from an invasive species, but is more resistant than its sister species. The inner bark of this tree has been historically used to cure throat issues and is still used in some cough drops. This tree is:
- A. red elm
 - B. blackgum
 - C. sassafras
 - D. American elm
29. This non-native invasive shrub can be a problem in the forest as it displaces native vegetation. It comes from the landscape industry and is still used as a hedge in many people's yards. This shrub is:
- A. privet
 - B. multiflora rose
 - C. bush honeysuckle
 - D. autumn olive
30. This Foresters tool is very handy to have when determining the health of a forest. What is it used for? (see tool provided)
- A. checking for hollow trees
 - B. checking soil depth
 - C. determining age and growth rate
 - D. determining sap content