

SHORELINE SITE - FORESTRY

F1 (3) On the path to the beach there was an invasive woody species that was originally planted for wildlife. What is the common name of this species?

- A. Autumn olive**
- B. Button bush
- C. Northern white cedar
- D. Shiny sumac
- E. Witch-hazel

F2 (3) What is the common name of the flagged tree near the stairs leading to the beach?

- A. Eastern larch
- B. Paper birch
- C. Tamarack
- D. White cedar**
- E. White pine
- F. White spruce

F3 (3) Increasingly smaller ownership parcels converts more forests to uses such as homes, roads etc. This process increases the amount of forest edge and human disturbance in the landscape. This process is called:

- A. Disturbance
- B. Downsizing
- C. Fragmentation**
- D. Sectioning
- E. All of the above
- F. None of the above

F4 (3) Today, Michigan's most plentiful forest type is?

- A. Aspen
- B. Cedar . hemlock
- C. Jack- pine
- D. Northern hardwoods**
- E. Oak . hickory
- F. White pine

SHORELINE SITE - FORESTRY (continued)

F5 (3) Which of the following, is the most effective method of regenerating forest types dominated by species intolerant of shade?

- A. Clearcutting**
- B. Group selection
- C. Individual tree selection
- D. Shelterwood
- E. Topping

F6 (3) Forests are always changing over time in species composition, plant sizes etc. The term given to this process is:

- A. Biodiversity
- B. Dynamic system
- C. Forest growth
- D. Harvest
- E. Succession**

F7 (3) Why are these trees here?

- A. Someone planted them
- B. There are good nutrients in the soil here
- C. There are older parent trees on the hill**
- D. They collapsed down the hill with the bank erosion

RIFLE RANGE - FORESTRY

F8 (3) At what height is DBH (diameter at breast height) measured:

- A. 3.5 feet
- B. 3.0 feet
- C. 4.0 feet
- D. 4.5 feet**
- E. 5.0 feet

F9 (6). Choose one of the trees labeled with pink tape. Write the number that you see on the pink label of the tree that you have chosen in this space: _____

AND Answer the two questions below.

A. What is the common name of this tree? _____

(Besides looking at the tree you may take a look at the twig and use the identification key to identify the species of this tree. Both are provided at the station.)

B. Using one of the tools provided, determine the height of this tree? _____ ft.

Full Credit	+/- 5 feet (3 pts.)	3 pts.	+/- 8 feet
2 pts.	+/-11 feet	1pts	+/- 15 feet

F10 (6). Choose one of the trees that is labeled with the orange tape. Write the number that you see on the orange label of the tree that you have chosen in this space:

_____. **AND** Answer the two questions below.

A. What is the common name of this tree? _____

(You may use the tree identification key that is provided at the station.)

B. Using one of the tools provided, determine the DBH of this tree? _____ in.

Full Credit	+/- 0.2 inch (3pts.)	2 pts.	+/- 0.5 inch	1 pt	+/- 0.8 inch
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F11 (3) In Michigan, even-aged management is most appropriate with which of the following groups of forest trees?

- A. Aspen- Birch**
- B. Beech-Maple-Hemlock
- C. Maple-Oak-White Pine
- D. Oak-Hickory
- E. All of the above

RIFLE RANGE - FORESTRY (Continued)

F12 (3) What would be the best course of action to deal with a standing, dead, hollow beech tree in the middle of this closed-canopy forest?

- A. Cut it down for firewood
- B. Cut it down for safety reasons
- C. Leave it standing for wildlife to use**
- D. Leave it standing provided it does not have beech bark disease
- E. None of the above

F13 (3) Which of the following tree species is least likely to regenerate (e.g. seed in small trees) under the closed-canopy forest above the rifle range?

- A. American Beech
- B. Ironwood
- C. Paper birch**
- D. Sugar Maple
- E. None of these plants are likely to seed in here.

F14 (3) Basal area is a measure of stand density. Mature stands of trees in Michigan that are fully stocked usually have basal area values between:

- A. 0 -100 square ft. per acre
- B. 100-200 square ft. per acre**
- C. 200-300 square ft. per acre
- D. 300 . 400 square ft. per acre
- E. None of the above

FARM SITE - FORESTRY

- F15 (3)** Because of the soil type at this location, which of the following groups of tree species would be most commonly found here?
- A. Black Cherry, Red Pine, Northern Pin Oak**
 - B. Red Maple, Jack Pine, Black Ash
 - C. White Birch, Quaking Aspen, Black Walnut
 - D. White Pine, White Cedar, American Elm
- F16 (3)** When properly placed, farm windbreaks can provide which of the following benefits?
- A. Increase irrigation efficiency
 - B. Increase wildlife habitat
 - C. Reduce soil erosion
 - D. Snow management
 - E. All of the above**
- F17 (3)** If you were to develop an energy plantation on this site which species of tree would be best to plant?
- A. Pine or Fir
 - B. Red or white oak
 - C. Silver or red maple
 - D. Switchgrass
 - E. Willow or Poplar**
- F18 (3)** When harvesting timber, you should consider which of the following actions?
- A. Follow forest Best Management Practices (BMPs) for Michigan.
 - B. Get at least 3 competitive bids for the timber purchase, if possible .
 - C. Have a forester oversee the harvesting operation.
 - D. Layout skid trails and log landing site before harvesting.
 - E. All of the above.**
 - F. None of the above.

URBAN SITE - FORESTRY

F19 (3) Which of the following trees is a Federally listed invasive species?

- A. Crabapple
- B. Cottonwood
- C. Sassafrass
- D. Silver Maple
- E. Tamarack
- F. Tree of Heaven**

F20 (3) Which statement is completely true of urban trees:

- A. They improve both air quality and water quality**
- B. They provide social benefits but increase energy usage
- C. They reduce storm water runoff but decrease property values
- D. They save energy use but pollute the air

F21 (6) Geology, climate and biology are ecological factors that interact and cause one community to differ from another. These factors interact to form forest _____,

- A. Eco-regions
- B. Growth habits
- C. Habitats**
- D. Trees

and the communities of organisms that occur in them are collectively referred to as _____ .

- E. Communes
- F. Ecosystems**
- G. Families
- H. Symbiotic relationships

URBAN SITE - FORESTRY (Continued)

F22 (3) Which of the following is the term used to describe the science and art of growing trees?

- A. Botany
- B. Entomology
- C. Ichthyology
- D. Silviculture**
- E. Tree Farm

F23 (3) A clinometer is most commonly used to measure which of the following?

- A. Basal area
- B. Board foot volume
- C. Canopy coverage
- D. Tree diameter
- E. Tree height**

AQUATIC SITE - FORESTY

- F24 (3)** Using BMPs (Best Management Practices), a streamside management zone should be established when harvesting timber near a stream. What is the minimum width suggested for such a buffer strip?
- A. 25 ft.
 - B. 50 ft.
 - C. 75 ft.
 - D. 100 ft.**
 - E. 125 ft.
 - F. 150 ft.
- F25 (3)** Several species of trees are present at this site. Which of the following is least tolerant of shade (or the most shade intolerant)?
- A. Black cherry**
 - B. Eastern hemlock
 - C. Northern white cedar
 - D. Red maple
 - E. Red oak
 - F. White pine
- F26 (3)** There is a small windbreak just east of the pond. What species of tree was used when the windbreak was planted?
- A. Balsam fir
 - B. Black spruce
 - C. Eastern hemlock
 - D. Northern white cedar
 - E. Tamarack (larch)
 - F. White spruce**
 - G. White pine

AQUATIC SITE - FORESTRY (continued)

F27 (3) Foliage of many conifers is a favored winter food source of white-tailed deer. Which of the following conifer species present at this site is **least likely** to be browsed by deer?

- A. Balsam fir
- B. Eastern hemlock
- C. Northern white cedar
- D. White spruce**
- E. White pine

F28 (3) Browsing by deer is a major problem in regenerating several forest types. Which of the following broad-leaved species is **least likely** to be browsed by deer?

- A. Black cherry**
- B. Red oak
- C. Sugar maple
- D. Yellow birch
- E. White oak

F29 (2) Where would you find the information about who owns this property?

- A. Almanac
- B. County map
- C. Plat map**
- D. Road Atlas