

2007 CT Envirothon Forestry Questions

Site 1:

Fill in the following table using the tree scale stick as needed:

Tree #	Species (common name)	dbh (nearest 2-inch)	Merchantable ht. (16' log to nearest 1/2 log)	Volume (board ft.)
1	Scarlett or Black Oak	22	2 logs	370
2	White Oak	12	1/2 log	27.5
3	Red Maple	6	X	X
4	American Beech	8	X	X
5	Scarlett or Black Oak	14	1.5 logs	105
6	Scarlett or Black Oak	22	2 logs	370

Total boardfoot volume = 8,725

7. If Site 1 represents a .10 acre plot and is typical of this stand of trees, calculate the boardfoot volume for an acre and circle the letter of the correct answer below.

- a. 2000 – 5000 boardfeet/acre
- b. 5000 – 7000 boardfeet/acre
- c. 7000 – 9000 boardfeet/acre**
- d. 9000 – 11000 boardfeet/acre

8. Connecticut loses over 7000 acres of Forestland to development each year. That averages over 20 acres per day! Un-fragmented forests provide many benefits. From the list below, choose the most important benefit that the forest provides.

- a. Wildlife habitat
- b. Clean air
- c. Forest products
- d. Clean water**
- e. Recreational opportunities
- f. Aesthetic beauty

9. Forests are managed stand by stand. A forest stand is the essential unit of silviculture, and is defined as a contiguous group of trees that is sufficiently uniform in:

- a. Tree size, soil type and genotype
- b. Species composition, age class arrangement and condition
- c. Elevation, slope and aspect
- d. Site index, origin and successional stage
so as to be a homogeneous and distinguishable unit.

10. Generally, two site factors that have the most influence on the development of trees within a stand, and on which foresters can have a significant influence are:

- a. Light and space in the canopy
- b. Soil moisture and water table
- c. Soil fertility and acidity
- d. Insects and fungus diseases

11. Trees grow in both height and diameter, and with respect to these forms of growth, which statement is most correct?

- a. Height growth is mostly controlled by genetics and the rate of diameter growth a function of root spread extent.
- b. Height growth is mostly dependent on weather conditions and the rate of diameter growth a function of tree health.
- c. Height growth is mostly controlled by photoperiod and the rate of diameter growth a function of genetics.
- d. Height growth is mostly dependent on site quality and the rate of diameter growth a function of stand density.

12. Which item in this list is NOT used to describe or characterize “Disturbance Regime”?

- a. Intensity
- b. Frequency
- c. Spatial Extent
- d. Type

19. The objective of silvicultural activities is **not** to mimic natural disturbances.

True or **False**

20. The forest type occupying the greatest proportion of the forested acreage in Connecticut is:

- a. Elm/ash/red maple
- b. White pine/Red pine/hemlock
- c. Oak/ hickory**
- d. Northern hardwoods

21. A good hard mast tree is which of the following?

- a. Black birch
- b. White oak**
- c. Crab apple
- d. Black cherry

Site 3:

Using the provided Tree Finder, identify the following samples: (Both parts of the question must be answered correctly for credit.)

22. Sample A is (use the scientific name) **Ulmus americana** and is found on page **45** of the Tree Finder.

23. Sample B is (use the scientific name) **Nyssa sylvatica** and is found on page **31** of the Tree Finder.

24. Looking at the two tree cross sections (cookies), which tree grew in a stand with higher stocking densities? (Circle the letter of the correct cookie).

A or B

25. Match the letter of the pictures of the insect pests on the table to its common name below.

D Asian Longhorned beetle E Hemlock woolly adelgid

C Gypsy Moth B Eastern Tent Caterpillar A Fall Webworm

26. Of the five conifer samples on the table, only one is NOT native to the United States. Circle the letter of the introduced species.

A. **B.** C. D. E.

27. Of the five samples on the table, four are non-native invasive plants and one is native to this area. The native species corresponds to which letter?

A. B. C. D. **E.**

28. Of the four non-native species in the above question, one is known to fix nitrogen (N₂) and thereby alter the soil condition allowing this plant to grow in poor soil conditions. Write in the space below either the common or the scientific name of this plant species.

Autumn olive or *Elaeagnus umbellata*

29. Utilization of the forest resource for energy purposes is considered to be:

a. Unsustainable c. Non-technical
b. **Carbon neutral** d. Politically expedient

30. Wood fuel has several environmental advantages over fossil fuel. Which of the following is a disadvantage?

a. Less expensive than fossil fuels
b. Renewable resource
c. Burning wood emits less CO₂
d. **Initial cost of wood biomass energy**

31. Based upon the plant species that are present in this forest stand, what can be assumed about the soil fertility and drainage?

a. **Low soil fertility, excessive drainage**
b. High soil fertility, excessive drainage
c. Low soil fertility, poor drainage
d. Low soil fertility, moderate drainage

32. Which one of the following is not considered a main greenhouse gas?

a. Carbon dioxide c. Ozone
b. **Nitrogen** d. Methane

33. A glacial varve is analogous to:

- a. A seismic wave
- b. A lateral moraine
- c. A graded stream
- d. A tree ring
- e. A drainage basin
- f. tree xylem

34. Tree # 7 is a Eastern hemlock (common name)

35. Tree # 8 is a Eastern white pine (common name)

36. Tree # 9 is a Black or Scarlett oak (common name)

37. Tree #9's dbh is 14

38. Approximately how years old are the conifers marked with orange flagging?

- a. 5-10
- b. 10-20
- c. 20-30
- d. 30-40

39. In Site 3, if all the hardwoods were cut down what species would become dominant?

White pine

40. Environmental (site) factors include both abiotic and biotic conditions. What are the abiotic environmental conditions associated with moisture, soil fertility, aspect, slope and drainage collectively known as?

- a. Limiting Factors
- b. Site Quality
- c. Site Structure
- d. Site Factors

41. Which pest had a major impact on the health and composition of Connecticut's urban forests starting in the 1930's?

- a. Man
- b. Gypsy Moth
- c. Chestnut Blight
- d. Dutch Elm Disease
- e. Hemlock Woolly Adelgid

42. Which non-native pest has the potential to have a major impact on Connecticut's forests, if it becomes established?

- a. White pine weevil
- b. Hemlock Woolly Adelgid
- c. Asian Longhorn Beetle
- d. Twolined Chestnut Borer