2023 REGIONAL IOWA ENVIROTHON
Forestry Test
(25 total points)

MATCHING: Match the term to the correct description (Questions 1-6).

Forest Harvesting Techniques

A. Clearcut Harvest
B. Group Selection Harvest
C. Single-Tree Selection Harvest
D. Seed Tree Harvest
E. Shelterwood Harvest
F. Thinning Harvest

_____ 1. Forest managers remove a portion of the trees in the early stages (10-15 years) of a growing stand of trees so there is less competition for sunlight, water, and nutrients.
_____ 2. Forest managers remove all the trees in an area, much like a wildfire, hurricane or other natural disturbance would do.
_____ 3. This harvesting method removes mature trees in two or three harvests over a period of 10 to 15 years which allows for the regeneration of medium to low shade-tolerant species because a "shelter" is left to protect them.
_____ 4. When using this forest harvesting method, five or more scattered trees per acre are left in the harvested area to provide seeds for a new forest stand.
_____ 5. This harvesting method resembles a small-scale clearcut where groups of trees in a given area are harvested over many years so that the entire stand has been cut within 40 to 50 years.
_____ 6. Forest managers remove individual trees that are ready for harvest, of low value or in competition with other trees.

7. Which of the following is a recommendation for developing an effective riparian buffer strip?
A. a wide strip of annual grasses and nettles should be located right beside the water's edge
B. all trees planted in a riparian buffer strip should be of the same species
C. a combination of trees, shrubs, and grasses should be planted
D. all of these are correct

8. Forest _____occur(s) for wildlife when many small patches of suitable habitat are separated by inhospitable areas, like human dwellings, crop fields, or even grasslands.
A. biltmore stickiness
B. habitat fragmentation
C. secondary cavity users
D. understory

9. Ideally, tree pruning should begin_____.
A. at the time of planting
B. at least three years after planting
C. when the trunk of the tree is six inches in diameter
D. after a storm has caused damage to the tree

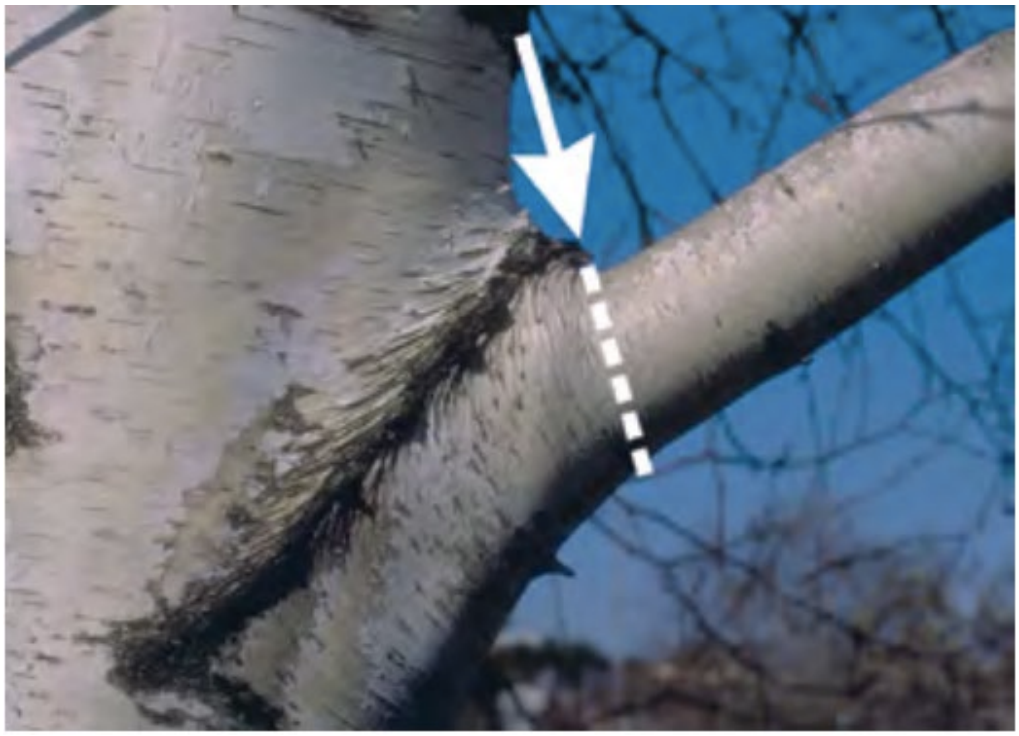
10. Canopy cover limits the amount of sunlight hitting the forest floor, which influences plant growth and food production, and ultimately bird habitat in forests. Photo A to the left and photo B to the right, show canopy cover of _____.

A. around 20% (A) and around 0% (B)
B. around 50% (A) and around 80% (B)
C. around 80% (A) and around 100% (B)
D. around 100% (A) and around 80% (B)



11. The suggested pruning cut shown in this picture is _____. (see picture)

A. incorrectly done since it should be parallel to the main trunk
B. correctly done since it will not injure the branch collar or branch bark ridge
C. incorrectly done since it should be parallel to the branch bark ridge
D. incorrectly done since it should be between the branch collar and the branch bark ridge



12. When viewing the landcover maps for Iowa in 1830 versus today, which color represents forest and savanna cover? (see maps)
A. tan
B. green
C. blue
D. light gray



Iowa landcover c. 1830.

Iowa landcover today.

13. What tree species are common bottomland tree species in Iowa? (see pictures)
A. eastern cottonwood, silver maple, and sandbar willow
B. green ash, boxelder, and American sycamore
C. sandbar willow and boxelder
D. all of these



Silver maple

Sandbar willow

Eastern cottonwood



Green ash

American sycamore

Boxelder

14. What species of tree is the state tree of Iowa?
A. Ash (Fraxinus spp.)
D. Hickory (Carya spp.)
C. Maple (Acer spp.)
D. Oak (Quercus spp.)

15. What is the name for this forest insect that provides an important link in the food web for passing energy from producers to the animals that cannot eat plants directly? (see pictures)
A. emerald ash borer caterpillar and moth
B. hackberry emperor caterpillar and moth
C. polyphemus caterpillar and moth
D. scissor-grinder cicada caterpillar and moth




16. Most Iowa forest invasive plants originate from _____ where the climate is similar, but ecological factors there, keep the plant populations balanced.
A. Africa and South America
B. Asia or Europe
C. Central and South America
D. all of these

17. In the early 1900s, _____, which is an abundant game species in Iowa today, had disappeared from the state due to unregulated hunting and habitat loss.
A. cerulean warblers (*Setophaga cerulea*)
B. mourning doves (*Zenaida macroura*)
C. white-tailed deer (*Odocoileus virginianus*)
D. wild turkeys (*Meleagris gallopavo*)

18. Roots of most species of trees are invaded by soil fungi to form root-fungus structures called _____.
A. apical meristem
B. decurrent
C. excurrent
D. mycorrhizae

19. According to the Family Forest Research Center, you have a forest if _____.
A. you have an acre or more of land with trees on at least 10 percent of it
B. you have an acre or more of land with trees on at least 100 percent of it
C. you have 10 acres or more of land with trees on at least 10 percent of it
D. you have 10 acres or more of land with trees on at least 100 percent of it
E. all of these are correct

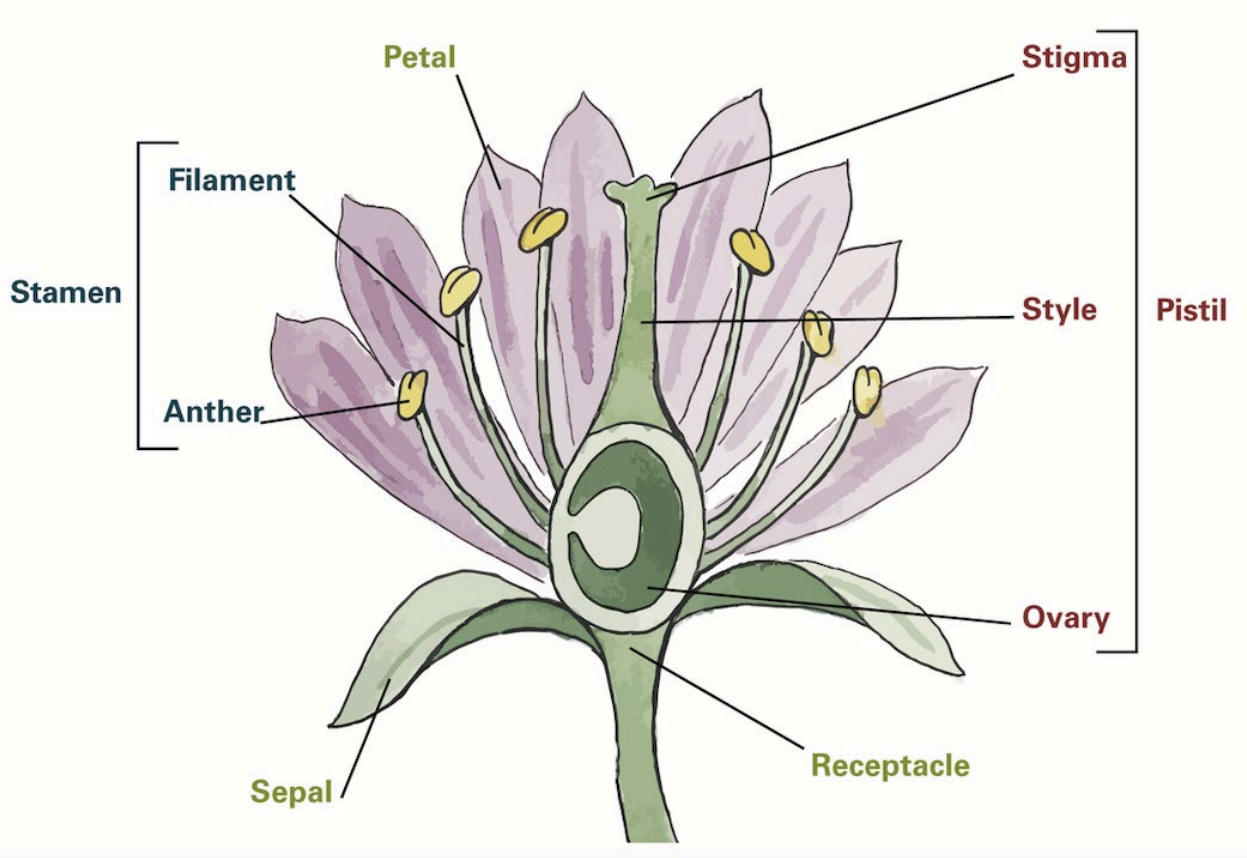
20. Which of the following represent smaller predators or secondary consumers in an Iowa forest food web? (see picture)
A. polyphemus moth caterpillar, common eastern bumble bee, white-footed mouse
B. eastern mole, western fox snake, Virginia opossum
C. bobcat, barred owl
D. American giant millipede, sulfur shelf fungi, slug
E. all of these are correct



21. At the time of European settlement, Iowa was covered with about 30 million acres of prairie. Today, only one-tenth of one percent of that original Iowa prairie remains. Approximately how many acres of prairie exist in Iowa today?
A. 300
B. 3,000
C. 30,000
D. 300,000
E. 3,000,000

22. How many different species of oak are native to Iowa?
A. one
B. two
C. twelve
D. twenty

23. The female reproductive parts of a flower include _____. (see picture)
A. petals
B. the pistil
C. sepals and the receptacle
D. the stamen
E. all of these



24. The diversity of Iowa's flora is influenced by _____.
A. flora common in eastern deciduous forests
B. the boreal forests to the north
C. the prairies of the Great Plains to the west
D. the Ozark oak hickory woodlands to the south
E. all of these

25. Which of the following are the five conifers native to Iowa?
A. red cedar, balsam fir, common juniper, yew, and eastern white pine
B. white oak, bur oak, chinquapin oak, post oak, and swamp white oak
C. red oak, pin oak, black oak, shingle oak, blackjack oak
D. white spruce, douglas fir, redwood, larch, and red pine