2025 Iowa Envirothon State Forestry Exam Team_____

Each Question is worth three points – 75 points possible

1. Which statement is true regarding the status of the Emerald Ash Borer Infestation in Iowa?
   A. As of October of 2024, Emerald Ash Borer has been confirmed in all of Iowa's 99 counties.
   B. The transportation of firewood and ash tree articles are not allowed from county-to-county within the state of Iowa.
   C. A one-time preventative treatment can be used to protect healthy ash trees from Emerald Ash Borer infestations
   D. Regulated ash tree articles include only the firewood and ash logs of any ash species.
   E. all of these are true

2. Which tree species is easily recognized by their long needles grouped into bundles of two, three, or five and should be pruned in early June to early July when the new growth is in the "candle" stage?
   A. Fir trees
   B. Pine trees
   C. Spruce trees
   D. Cedar trees
   E. all of the above

3. The annual rings found in tree stems _____.
   A. are the result of variations in growth rate
   B. include lighter wood which is formed early in the season with larger, thin-walled cells
   C. include darker wood which is formed later in the season with thick-walled cells
   D. all of these are correct

4. Which of the following hardwood tree species would NOT be identified as having alternate, compound leaves with more than eleven leaflets?
   A. Black Walnut (*Juglans nigra*)
   B. Boxelder (*Acer negundo*)
   C. Butternut (*Juglans cinerea*)
   D. Kentucky Coffee Tree (*Gymnocladus dioicus)*

5. At what height on the tree do you measure diameter at breast height (DBH)?
   A. 3.5 feet
   B. 4 feet
   C. 4.5 feet
   D. 5 feet
   E. 5.5 feet

6. _____ produce “hard mast” that is critical for species like blue jays, wild turkeys, and red-headed woodpeckers.
   A. Maples, cherries and plums and some shrubs like dogwoods
   B. Eastern redcedar, grapes and some shrubs like raspberries
   C. Oaks, hickories, and some shrubs like American hazel
   D. Insects, spiders, and lichen

7. Angiosperms
   A. are flowering plants that form seeds inside an ovary within a flower
   B. put a great deal of energy into seed production
   C. often offer pleasing treats such as nuts, berries, and fruits
   D. include broad-leafed trees, grasses, and wildflowers
   E. all of these are correct

8. The scissor-grinder cicada, the polyphemus moth caterpillar, the common eastern bumble bee, and the white-footed mouse are classified into which trophic level in the food chain of a forest habitat?
   A. detritivores/decomposers
   B. primary consumers
   C. producers
   D. secondary consumers
   E. tertiary consumers

9. At the time of Iowa’s statehood in 1846, forests covered nearly seven million acres out of the 35.7 million acres out of the total area in Iowa. What percent of the total acres in Iowa were covered in forests at this time?
   A. 9%
   B. 15%
   C. 19%
   D. 25%
   E. 29%

10. What is Iowa’s state tree?
   A. black walnut
   B. oak
   C. basswood
   D. white pine

11. Timber management harvest systems that favor the regeneration of oak trees.
   A. high grading
   B. thinning
   C. clearcutting and shelterwood
   D. single tree selection harvest

12. What typically causes trees to grow slowly?
    A. too much competition from surrounding trees
    B. diseases and pests
    C. damage from the wind
    D. trees always grow slowly

13. Riparian forest buffers helps
    A. improve fish and invertebrate habitat
    B. improve water infiltration
    C. trap sediment and reduces agricultural fertilizer runoff
    D. all of the above

14. What is the xylem?
    A. Layer of woody cells that transport products of photosynthesis from the leaves to the roots.
    B. Layer of woody cells that protects the internal structure of a tree from fire and insect pests.
    C. Layer of woody cells that transports water and mineral nutrients from the soil to the leaves.
    D. An organism associated with tree roots to help with nutrient absorption.

15. In the plant classification system, what two parts are used to universally identify trees?
    A. Family and genus
    B. Phylum and family
    C. Genus and species
    D. Family and species

16. Which of the following is a native evergreen in Iowa that does not produce cones?
    A. Eastern white pine (*Pinus strobus*)
    B. Eastern red cedar (*Juniperus virginiana*)
    C. Scotch pine (*Pinus sylvestris*)
    D. Colorado blue spruce (*Picea pungens*)

17. Which of the following statements is FALSE?
    A. Light is the hardest growth factor to manage in a forest. It is easier to change the soil, moisture, or nutrients.
    B. Upland forests are not subject to flooding and may include oaks and hickories.
    C. Eastern red cedar is more common in Iowa today than in 1846 because wildfires are controlled.
    D. Trees reduce the “greenhouse effect” by removing carbon dioxide from the atmosphere and storing it in wood.

18. Using a 10-factor wedge prism, find the basal area using the predetermined plot center. How many square feet per acre is represented?
    A. 11 square feet
    B. 110 square feet
    C. 220 square feet
    D. 55 square feet

19. Find the tree with blue flagging tied around the trunk that also has a blue wire flag in the ground in front of it. What species is the tree?
    A. black locust
    B. red oak
    C. buckthorn
    D. honey locust

20. Find the tree with blue flagging tied around the trunk that also has an orange wire flag in the ground in front of it. What species is the tree?
    A. black cherry
    B. black oak
    C. black locust
    D. black gum

21. Using the tree from question 20, find the diameter at breast height.
    A. 11 inches
    B. 14 inches
    C. 17 inches
    D. 21 inches

22. Using the tree from question 20, determine the number of merchantable logs to the nearest half log.
    A. 1 log
    B. 1.5 logs
    C. 2.5 logs
    D. 0.5 logs

23. Pretend the tree from question 20 has 3 logs. Using the answer for the diameter of this tree from question 21, determine how many board feet are in this tree.
    A. 74 board feet
    B. 146 board feet
    C. 246 board feet
    D. 364 board feet

24. Find the shrub with the blue flagging tied to it. If you look around in this forest, you will see many more of these invasive shrubs. What invasive shrub is this?
    A. autumn olive
    B. Japanese barberry
    C. buckthorn
    D. honeysuckle

25. In the open grass field between the road and the forest, find the young tree with the white tree protector around the trunk and also has blue flagging tied to it. What genus does this tree belong to? (hint: think savanna)
    A. fraxinus
    B. prunus
    C. ulmus
    D. quercus