

**2010 Area V Envirothon
Paint Creek State Park
FORESTRY ECOSTATION**

**Please use a pencil to complete your answer sheet.
DO NOT WRITE ON THIS TEST**

1. Forest in Ohio covers what percent of the total land base?
 - a. 21 percent
 - b. 25 percent
 - c. 30 percent
 - d. 35 percent

2. The state tree of Ohio is the Ohio Buckeye *Aesculus glabra*, the Indian name for buckeye is Hetuch which means “eye of the buck”. This tree gets its common name from what part of the plant.
 - a. Leaves
 - b. Bark
 - c. Seed
 - d. Buds and branches

3. Forest ecosystems have what relationship to groundwater?
 - a. Forests ecosystems do not contribute to groundwater. They eliminate all groundwater through transpiration.
 - b. Accumulated organic material on the forest floor acts like a sponge, holding water and allowing it to slowly percolate into the groundwater.
 - c. Gullies that result from poor logging practices are a good source of groundwater recharge during large rain events.
 - d. Verna pools that occur in some Ohio woodlands support amphibians that emit toxins that poison the groundwater.

4. What changes in tree species would you expect, if the climate in Southern Ohio becomes warmer and drier?
 - a. Increase in sugar maple
 - b. Increase in cherry
 - c. Increase in Virginia pine
 - d. Increase in hemlock

5. Some trees produce chemicals that reduce the growth of competing plants by releasing a chemical. This process is called Allelopathy. What tree species common to Ohio produces a chemical that causes an allelopathic reaction?
 - a. white oak
 - b. black walnut
 - c. sassafras
 - d. white pine

6. What exotic tree disease introduction to the United States changed the species composition of today's forest in Ohio? This event all but eliminated an important species. Oaks and other hardwoods replaced this once-dominant species.
- Gypsy Moth
 - Global warming
 - Southern pine beetle
 - Chestnut blight
7. Riparian Forests like the one along the lake are designed to?
- Filter the water and reduce runoff
 - Are causing a problem and should be cut down to reduce harm to the environment.
 - Block the view and create a lot of biomass of leaves to rake
 - Reduce the ozone getting to the water
8. The partially decomposed organic matter from items such as leaves and aquatic vegetation that can be found on the bottom of Paint Creek Lake is an important food source for many Macroinvertebrates. What is this decomposed organic matter called?
- Detritus
 - Sediment
 - Mud
 - Algae
 - Moss
9. Clearcutting is an important forest harvesting practice to produce what type of wildlife habitat
- Old growth forest
 - Open fields
 - Shrub- sapling type
 - Mixed mesophytic forest
10. There are over 1000 bat species in the world. Forest habitats are an important part of many bat species. How many bat species are there in Ohio?
- 65 species
 - 75 species
 - 11 species
 - 6 species
11. What is the major non-native, invasive tree that is a present threat to Paint Creek State park?
- Tree of heaven
 - Chinaberry
 - Norway Maple
 - Paulownia

12. Trees that have the capacity to grow and thrive under heavy shade are considered shade tolerant. Which of the following trees are shade tolerant?
- Sugar maple and yellow poplar
 - Sugar maple and aspen
 - Sugar maple and beech
 - Sugar maple and sassafras
13. Yellow poplar seed primary means of dispersal is?
- Water
 - Wind
 - Wildlife
 - Birds
14. Prescribed fire is a tool that natural resource managers sometimes use to manipulate the vegetation growing on a particular site. Prescribe fire can help create the following benefits.
- Create a better view of the trees
 - Kill the ticks
 - Remove the leaves so they do not need to be raked.
 - Reduce the amount of fuel to reduce the threat of a wildfire
15. Transpiration is the process of the absorption of water by plants, usually through the roots, the movement of water through plants, and the loss of the water through stomata. The process to remediate contamination by the uptake of water by plants is called.
- Hypovirulence
 - Phytoremediation
 - Hydroponics
 - Phytophthora
16. Natural woody debris such as stumps, logs, and fallen twigs and branches that lie decaying on the ground have the following environmental effect?
- They result in large quantity of harmful bacterial entering both the surface and ground water.
 - They can wash into a stream creating log jams that have no environmental benefit.
 - They are the most often used materials by beaver for constructing dams.
 - They add beneficial organic material to the soil and provide habitat for detritivores.
17. Trees can have simple or compound leaves. The following tree species has compound leaves.
- Black walnut
 - Red oak
 - Sugar maple
 - None of the above
18. Wetlands are important water filters...what are the three key criteria to study if you are trying to determine if an area is a "wetland"?
- Land use, rainfall patterns, trees per acre
 - Plant types, animal types, land use
 - Rainfall patterns, saturation levels, animal types
 - Soil types, plant types, saturation levels
 - Land use, macroinvertebrate types, soil types

19. Trees can have alternate or opposite branching. Which of the following trees have opposite branching?
- Oak, hickory, beech
 - Sassafras, elm, sycamore
 - Maple, ash, dogwood, buckeye
 - Basswood, cherry, aspen, blackgum
20. Which of these plants would normally be associated with wetlands?
- Thistle
 - Big Bluestem
 - Timothy
 - Bulrush
 - Kentucky Bluegrass
21. What tree species is labeled #21?
- Black oak
 - Yellow poplar
 - Sugar maple
 - White oak
22. What species is the tree labeled #22?
- Ash
 - Red maple
 - Basswood
 - Sugar Maple
23. Determine the number of 16 foot logs in the tree marked #23 by using the tree measuring stick.
- 1 log
 - 2 log
 - 3 log
 - 4 log
24. Determine the diameter at breast height (DBH) of the tree labeled # 13 by using the tree measuring stick.
- 20 inches
 - 22 inches
 - 24 inches
 - 5 inches
25. While most trees have some wildlife value the oak trees are particularly important because of the hard mast they produce which is an important wildlife food. Use the tree key information provided to identify which of the following twigs is from an oak tree. (Choose from twigs labeled A, B, C, or D)
- A.
 - B.
 - C.
 - D.