

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

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

1. What is the largest map unit in acreage in the Ross County Soil Survey?
 - A. ShE, Shelocta-Cruze-Weikert association, steep
 - B. SgF, Shelocta-Brownsville association, very steep
 - C. CwE, Cruze silt loam, 20 to 35 percent slopes
 - D. MhC2, Miamian silt loam, 6 to 12 percent slopes, eroded

2. There are 5 factors that influence the formation of soils. Which of the following is not one of the five soil formation factors?
 - A. Time
 - B. Additions
 - C. Living Organisms
 - D. Climate

3. There are 12 different soil texture classes recognized in the USDA classification system. Which of the following is not a recognized texture class?
 - A. Loamy Clay
 - B. Clay
 - C. Silty Clay Loam
 - D. Sandy Clay

4. Orrville soils formed in alluvium parent material. What phrase best describes alluvium material?
 - A. Material that weathered in place
 - B. Wind blown material
 - C. Water deposited material
 - D. Material that has moved from upslope

5. What is the suitability for septic tank absorption fields for ObA: Ockley silt loam, 0 to 2 percent slopes?
 - A. Not Limited
 - B. Somewhat Limited
 - C. Very Limited
 - D. Not Rated

6. One of the common parent materials found in Ohio is Loess. What phrase best describes Loess?
 - A. Material that has moved from upslope
 - B. Material that weathered in place
 - C. Water deposited material
 - D. Wind blown silt material

7. Acid rain caused by the burning of fossil fuels could harm plants and animals. Which of the following types of rock would buffer the pH of water as it filters through the ground?
- A. Limestone
 - B. Shale
 - C. Sandstone
 - D. Granite
8. Land capability classification shows the suitability of soils for what?
- A. Building sites
 - B. Wildlife habitat
 - C. Woodlands
 - D. Field crops
9. Soil erosion is a concern when building any type of road in the woodland. The water bar is used to help prevent or reduce the soil erosion. What is a water bar?
- B. An earthen dam built to provide habitat for beavers.
 - C. An earthen dam built to divert water off of logging roads
 - D. An earthen dam built to create a small pool of water used by salamanders
 - E. An earthen dam built to catch the rainwater and keep it on the road.
10. What is a soil ped?
- A. A group of natural soil aggregates
 - B. A group of rock fragments in the soil
 - C. There is no such thing as a soil ped
 - D. An individual natural soil aggregate
11. The Miamian soil series is unofficially considered to be the State Soil of Ohio. Which description best describes the Miamian soil series?
- A. Soil formed in loess over till
 - B. Soil formed in alluvium
 - C. Soil formed in loess and the underlying residuum (bedrock)
 - D. Soil formed in lake plain, lacustrine sediments
12. Which of the following statements best describes the “O” horizon of soil?
- A. The mineral horizon or layer, excluding indurated bedrock that is little affected by soil forming processes
 - B. The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
 - C. The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with mineral material.
 - D. An organic layer of fresh decaying plant residue.
13. Paint Creek is home to some of the oldest exposed bedrock in Ross County. Which of the following is the oldest bedrock?
- A. Silurian limestone
 - B. Devonian shale
 - C. Mississippian shale
 - D. Pennsylvanian sandstone

14. In order to prevent seepage when constructing a pond or lake (like the Pond here), this material should make up at least 20% (by weight) of the soils on the pond bottom.
- A. Ash
 - B. Gravel
 - C. Loam
 - D. Clay
 - E. Sand
15. Which statement below best describes soil infiltration?
- A. Water flow through the subsoil
 - B. Physical characteristics of the soil
 - C. Downward entry of water into the immediate soil surface
 - D. Inherent soil quality
16. Soil texture refers to the relative proportion of three constituents. What are the three constituents?
- A. Clay, loam, sand
 - B. Silt, loam, sand
 - C. Loam, clay, silt
 - D. Sand, silt, clay
17. What is the greatest pollution threat to Ohio's waterways?
- A. Acid Rain
 - B. Insecticide/Herbicide
 - C. Sedimentation/Siltation
 - D. Flooding
 - E. Boats/Jet Skis
18. The majority of potential soil erosion on timber harvest sites occurs where?
- B. The entire site because cutting trees causes soil erosion
 - C. Only on the roads and skid trails where soil is exposed
 - D. Only on the ridge tops and upper slopes
 - E. Only in wet areas where soil particles are saturated
19. Soils are rated according to limitations that affect their suitability for recreation as this land use can negatively impact groundwater resources. Which of the following is not a feature upon which the ratings are based?
- A. Vegetation
 - B. Wetness
 - C. Texture
 - D. Slope
20. Exposed rock formations in the Paint Creek vicinity are in contrast to the woodlands and grasslands of the surrounding upland area. These various rock formations benefit the ecotourism of the lake region by...
- A. Increasing biodiversity which creates additional wildlife and plant viewing opportunities.
 - B. Providing additional recreation such as rock climbing in designated areas.
 - C. Making the area aesthetically pleasing to hike through.
 - D. All of the above

21. According to the Ross County Soil Survey, the soil pit is located on the edge of the LrC2 map unit. If a home without a basement was constructed at this site, what would be the main soil concern (if any)?
- A. Depth to bedrock
 - B. Slope
 - C. Flooding
 - D. None (no concerns at this site)
22. Nutrient runoff is a source of groundwater contamination. Soil texture affects the ability of a soil to hold and release nutrients. What is the texture of the topsoil (uppermost horizon)?
- A. Clay
 - B. Sandy Clay
 - C. Clay loam
 - D. Silt Loam
23. What is the texture of the Subsoil at a depth of 24 inches?
- A. Clay
 - B. Clay Loam
 - C. Silt Loam
 - D. Silty Clay
24. What is the depth to bedrock in the soil pit?
- A. 0 to 12 inches
 - B. 12 to 24 inches
 - C. 24 to 36 inches
 - D. Below the bottom of the pit
25. What is the structure of the soil in the pit between 8 to 12 inches?
- A. Platy
 - B. Prismatic
 - C. Granular
 - D. Single-grained