

2008 Envirothon
Area 5 Soil and Water Conservation Districts
Shawnee State Park
Soils Ecostation

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

1. Which of the following statements below best describes the “A” horizon of a 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 humidified organic matter is mixed with the mineral material.
 - D. An organic layer of fresh and decaying plant residue.

2. Soil texture refers to the relative proportions of three constituents. Which of the following is not used in the definition of texture?
 - A. Sand
 - B. Loam
 - C. Silt
 - D. Clay

3. Shelocta soils formed in colluvium over residuum parent material. What phrase best describes colluvium material?
 - A. Material that weathered in place
 - B. Wind blown material
 - C. Water deposited material
 - D. Material that has moved from upslope

4. Land capability classification shows the suitability of soils for:
 - A. Building sites
 - B. Field Crops

- C. Wildlife habitat
 - D. Woodlands
5. Which soil map unit covers the most acreage in the Scioto County Soil Survey?
- A. ScE, Shelocta–Brownsville association, steep
 - B. ScF, Shelocta–Brownsville association, very steep
 - C. SfE, Shelocta–Wharton–Latham association, steep
 - D. SeF, Shelocta–Steinsburg association, very steep
6. What map unit is not considered prime farmland.
- A. No
 - B. Ge
 - C. To
 - D. Po
7. What is the slope range for the Shelocta Series.
- A. 3 to 60 percent
 - B. 3 to 8 percent
 - C. 3 to 15 percent
 - D. 15 to 25 percent
8. Scioto County lies in which geographic province?
- A. Glaciated Allegheny Plateau
 - B. Unglaciated Allegheny Plateau
 - C. Ohio valley
 - D. Interior Low Plateaus
9. The Pottsville Group is one of two groups that represent the Pennsylvanian System of bedrock in Scioto County. About 42 percent of the Pottsville Group is:
- A. Limestone
 - B. Coal
 - C. Shale
 - D. Sandstone

10. What soil feature affects tree height more significantly than any other single soil or topographical feature?
- A. Thickness of surface soil
 - B. Thickness of subsoil
 - C. Texture of the surface soil
 - D. Texture of the subsoil
11. Soils can play an important role in recreational activities like those provided by Shawnee State Park. Soils are rated according to limitations that affect their suitability for recreation. Which of the following is **not** a feature upon which the ratings are based?
- A. Vegetation
 - B. Wetness
 - C. Texture
 - D. Slope

The following questions refer to the site and/or soil pit.

12. According to the Scioto County Soil Survey, the soil pit is located on map sheet 53. What is the name of the soil associated with the soil pit?
- A. Shelocta silt loam, 8 to 15 percent slopes
 - B. Sardinia silt loam, 1 to 8 percent slopes
 - C. Shelocta silt loam, 3 to 8 percent slopes
 - D. Sciotoville silt loam, 1 to 8 percent slopes
13. What is the Woodland Ordination Symbol for the soil located at this site?
- A. 5A
 - B. 4A
 - C. 4R
 - D. 3R
14. What is the soil rating for potential as habitat for woodland wildlife at this site?
- A. Good

- B. Fair
 - C. Poor
 - D. Very Poor
15. Recreational development for the soil at this site is rated slight for camp areas, picnic areas, paths and trails, and golf fairways. What is the rating for playgrounds?
- A. Slight
 - B. Moderate: slope, small stones
 - C. Moderate: slope
 - D. Severe: slope
16. What is the depth to bedrock in the soil pit?
- A. 0 to 11 inches
 - B. 11 to 20 inches
 - C. 21 to 30 inches
 - D. Greater than 30 inches or below the bottom of the pit
17. What is the surface texture of the soil in the pit?
- A. Clay
 - B. Sandy loam
 - C. Silty clay
 - D. Silt loam
18. What is the structure of the soil pit between 10 to 20 inches?
- A. Blocky
 - B. Prismatic
 - C. Granular
 - D. Single-grained
19. Redoximorphic depletions (gray mottles) are used to indicate the presence of a water table. At what depth do redoximorphic depletions occur in the soil pit?
- A. 0 to 10 inches
 - B. 10 to 20 inches
 - C. 20 to 30 inches

- D. Below the bottom of the pit
20. What is the texture class of the soil in the pit between 10 to 20 inches?
- A. Silt loam
 - B. Sandy loam
 - C. Sandy clay
 - D. Silty clay
21. What is the septic tank absorption field rating for the soil at this site?
- A. Severe: wetness
 - B. Severe: slope
 - C. Moderate: depth to rock
 - D. Moderate: depth to rock, slope
22. Soil erosion is a concern when managing soils for many activities including woodland management. According to the soil survey, what is the soil erosion hazard for woodland management and productivity for the soil at the pit?
- A. Slight
 - B. Moderate
 - C. Severe
 - D. Not Rated
23. What is the corn yield in bushels per acre for the soil at this site?
- A. 100
 - B. 95
 - C. 80
 - D. 105
24. This helps the small roots of a tree with nutrient uptake and improves growth in forested conditions.
- A. Mycorrhizae
 - B. Mulch
 - C. Nitrogen fixation
 - D. Fertilizer

25. How can construction of recreational buildings inside a park affect the environment around them?
- A. Increased Runoff
 - B. Buildings create magnetic fields which disorient wildlife
 - C. Increased soil permeability
 - D. Soil compaction will be reduced