

2018 Area 5 Envirothon Soil

On-Site Soil Questions:

1. Soil drainage classification is a method of indicating how water moves off the surface or through the soil. Which of the following best describes this soil's natural drainage class?
 - A. Somewhat poorly drained
 - B. Well drained
 - C. Poorly drained
 - D. Moderately well drained**
2. The surface horizon of the soil is commonly called 'top soil' or 'Ap'. Much of the plant root growth occurs in this top layer because it holds the most nutrients and available water for plants. What is the top soil depth of the soil in the pit at area A.
 - A. 3 to 5 inches
 - B. 5 to 9 inches**
 - C. 9 to 12 inches
 - D. 10 to 14 inches
3. What is the texture of the Ap in the pit and also in Bucket 1?
 - A. Loam
 - B. Silty clay loam
 - C. Silt loam**
 - D. Silt
4. What is the soil structure of the Ap?
 - A. Single grain
 - B. Granular**
 - C. Subangular blocky
 - D. Platy
5. Redoximorphic features indicate the presence of seasonal saturation and occur in forms of concentrations (red/orange colors) and depletions (gray colors). At what depth are the redoximorphic features (gray colors) found in the soil pit?
 - A. 0 to 6 inches
 - B. 6 to 18 inches
 - C. 24 to 30 inches**
 - D. Greater than 30 inches or below the bottom of the pit.
6. What is the soil texture from 25 to 35 inches in the soil pit?
 - A. Clay loam**
 - B. Silt loam
 - C. Loam
 - D. Clay

7. Loess is commonly found throughout Ohio. What phrase best describes loess?
- A. Water deposited material
 - B. Material that has moved from upslope
 - C. Windblown silt material**
 - D. Material that weathered in place
8. The solum is the upper part of the soil profile, (above the C horizon), in which the processes of soil formation are active. What is the depth of the solum in the pit?
- A. 12 to 24 inches
 - B. 9 to 12 inches
 - C. 20 to 30 inches
 - D. Greater than 40 inches or below the bottom of the pit**
9. If a septic tank absorption field were installed at this site, which soil feature would be most restrictive and likely to cause groundwater pollution problems?
- A. Underlying sand and gravel
 - B. Glacial till
 - C. Seasonal wetness or drainage**
 - D. Slow soil permeability
10. In what parent material has this soil been formed from?
- A. Alluvium
 - B. Glacial till
 - C. Residuum
 - D. Loess /Outwash**
11. Landform categories are used to describe what type of geological formation in which the soil developed. According to the map unit description, in what landform setting would you find Haubstadt silt loam?
- A. Flood plain
 - B. Stream terrace**
 - C. Upland
 - D. Lakebed
12. What is the structure of the soil at a depth of 24 inches in the soil pit?
- A. Blocky**
 - B. Single grained
 - C. Massive
 - D. Granular

General Soil Questions:

13. What are the 5 Soil Forming Factors?
- A. Time, Relief, Rainfall, Living Organisms, Climate
 - B. Time, Climate, Relief, Organic Matter, Living Organisms
 - C. Time, Climate, Relief, Parent Material, Living Organisms**
 - D. Time, Climate, Relief, Tillage, Rainfall

14. Land capability classification is a value given to each soil map unit that tells planners what limitations a soil has for growing crops. What is the land capability classification for HbB – Haubstadt silt loam, 2 to 6 percent slopes?
- A. I
 - B. IIw
 - C. IIIe
 - D. IIe**
15. A map unit symbol represents an area on the map that is dominated by one or more major kinds of soil, or map unit name. The letters represent the name and slope of the map unit. What does the number 3 represent in the map unit symbol “HyD3”?
- A. 12 to 18 percent slopes
 - B. Clay loam
 - C. Eroded
 - D. Severely eroded**
16. The structure of the soil determines how fast water and air will move through the soil. What is the definition of soil structure?
- A. The relative amounts of sand, silt and clay
 - B. The amount of space available for roots
 - C. The arrangement of soil particles into units called aggregates**
 - D. The amount of water available to plants in the soil
17. There are 12 different soil texture classes recognized in the USDA classification system. Which of the following is NOT a recognized texture class?
- A. Silty Loam**
 - B. Sandy Loam
 - C. Clay
 - D. Clay Loam
18. Soil information can be found in many places. What resource should be used to get the most up-to-date soils data for a certain area?
- A. County soil survey books
 - B. Soil survey CDs
 - C. Facebook
 - D. Web Soil Survey**
19. Ohio’s soil and landscape has been influenced the most by?
- A. Glaciers**
 - B. Lakes
 - C. Rivers
 - D. Hills

20. What material is added to soils to raise the pH level?
- A. Nitrogen
 - B. Manure
 - C. Compost
 - D. Lime**
21. One key concept of the Web Soil Survey is the AOI. In regard to the Web soil survey, what does the acronym AOI stand for?
- A. Availability of information
 - B. Automated Optical Inspection
 - C. Area of Interest**
 - D. Automatic Operator Interface
22. A flood plain is defined as an area of low lying ground adjacent to a stream and a river and is formed by?
- A. Lacustrine deposits
 - B. Mud slides
 - C. Colluvial deposits
 - D. Alluvial deposits**
23. Root restrictive layers are layers in the soil that limit plant roots. Which of these are **not** considered a root restrictive layers?
- A. Sand and gravel
 - B. Fragipan
 - C. Muck**
 - D. Bedrock
24. An ideal soil is made up of three parts with different percentages which are the correct percentages?
- A. 5% organic matter, 45% mineral, 50% pore space**
 - B. 10% organic matter, 40% mineral, 50% pore space
 - C. 10% organic matter, 30% mineral, 60% pore space
 - D. 10% organic matter, 50% mineral, 40% pore space
25. Rangelands are incredibly dynamic ecosystems. There are five major factors that cause rangelands to change over time. Which of the following is not a factor?
- A. Grazing
 - B. Fire
 - C. Soil quality**
 - D. Invasive plants