

2023 Area IV Envirothon Soils Questions

1. Which of the following principal forms of soil is considered structureless?
 - A. Columnar
 - B. Granular
 - C. Massive
 - D. Prismatic

2. Which soil element can give soil a brown, yellow or red color?
 - A. Copper
 - B. Iron
 - C. Manganese
 - D. Zinc

3. By weight, which soil component makes up the smallest percentage of soil in both natural and compacted soils?
 - A. Mineral Matter
 - B. Organic Matter
 - C. Soil Air
 - D. Soil Water

4. Which soil horizon is also known as the substratum?
 - A. "A" horizon
 - B. "B" horizon
 - C. "C" horizon
 - D. "R" horizon

5. Which answer has the soil particles listed from the largest particle to the smallest particle?
 - A. Clay, silt, sand
 - B. Sand, silt, clay
 - C. Sand, clay, silt
 - D. Silt, sand, clay

6. Based upon the soil textural triangle, which of these soil textures contains the highest percentage of clay particles?
- A. Clay loam
 - B. Loam
 - C. Silty clay
 - D. Silty clay loam
7. The percentage of slope for land with an 8-foot drop in 400 feet of horizontal distance is.
- A. 0.02
 - B. 2
 - C. 5
 - D. 50
8. The continental ice mass known as the Laurentide Ice Sheet covered approximately what percentage of Ohio during the early Pleistocene period?
- A. 100%
 - B. 67%
 - C. 40%
 - D. 25%
9. When building a compost pile made up of dried leaves and grass clippings, which fertilizer nutrient can be added to the pile if you run short of grass clippings?
- A. Nitrogen
 - B. Phosphorus
 - C. Potassium
 - D. Sulfur
10. How deep should you insert the soil probe when collecting soil samples for trees, shrubs, and vegetables?
- A. Less than 1 inch
 - B. 2 to 4 inches
 - C. 5 to 8 inches
 - D. 10 to 12 inches

11. Soil samples should not be collected in a.
- A. Aluminum bucket
 - B. Cardboard box
 - C. Plastic bucket
 - D. Ziploc bag
12. To lower the soil pH, gardeners should add _____ to the soil.
- A. Gypsum
 - B. Lime
 - C. Sulfur
 - D. Wood Ashes
13. Soil properties are developed through five principal soil forming factors. Which of the following is not a soil forming factor?
- A. Climate
 - B. Relief
 - C. Time
 - D. All of these are soil forming factors
14. Material (sand, silt, or clay) that is deposited on land by flowing streams is called.
- A. Alluvium
 - B. Colluvium
 - C. Residuum
 - D. None of the above
15. Which soil horizon is located closest to the soil surface?
- A. "A" horizon
 - B. "B" horizon
 - C. "C" horizon
 - D. "O" horizon

16. Which metal caused soil contamination near roadways because of automobile emissions?

- A. Cadmium
- B. Copper
- C. Lead
- D. Nickel

17. Sedimentary rock formed by the hardening of a clay deposit is called.

- A. Aggregate
- B. Bedrock
- C. Sandstone
- D. Shale

18. Erosion is the wearing away of the land surface by water, wind, ice, or other geologic agents. Erosion that occurs mainly because of human or animal activities is known as.

- A. Accelerated erosion
- B. Geologic erosion
- C. Natural erosion
- D. None of the above

19. What is the depth of the topsoil in the soil pit?

- A. 0 to 4 inches
- B. 4 to 8 inches
- C. 8 to 12 inches
- D. Over 12 inches

20. What is the soil texture of the topsoil in the soil pit?

- A. Sandy loam
- B. Sandy clay loam
- C. Silty clay loam
- D. Silt loam

21. The solum is the upper part of the soil profile (above the C horizon). What is the depth of the solum in the soil pit?
- A. 0 to 10 inches
 - B. 10 to 20 inches
 - C. 20 to 30 inches
 - D. Greater than 30 inches or below the bottom of the soil pit
22. What is the structure of the soil in the soil pit at 20 inches in depth?
- A. Blocky
 - B. Granular
 - C. Massive
 - D. Single grained
23. Redoximorphic depletions (gray mottles) are used to indicate the presence of a water table. At what depth do the redoximorphic depletions occur in the soil pit?
- A. 0 to 10 inches
 - B. 10 to 20 inches
 - C. 20 to 30 inches
 - D. Greater than 30 inches or below the bottom of the soil pit
24. Do there appear to be any restrictive layers located in the soil pit?
- A. Yes
 - B. No
25. What is the approximate slope of the area around the soil pit? (Marked by flags)
- A. 0 to 2%
 - B. 2 to 6%
 - C. 6 to 12%
 - D. Over 12%