

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%