

**IOWA FFA STATE SOILS CDE**  
**SATURDAY, OCTOBER 13, 2007**  
**AMES, IOWA**

1. **Moderately sloping has what percent slope:**
  - a. **9-14%**
  - b. **2-5%**
  - c. **5-9%**
  - d. **over 14%**
  
2. **Which of the following horizons is the “loose underlying material”?**
  - a. **B Horizon**
  - b. **R Horizon**
  - c. **A Horizon**
  - d. **C Horizon**
  
3. **Which of the following are true about suitability for source of topsoil?**
  - a. **The textures in the top 40 inches of the total depth are in the medium range**
  - b. **The thickness of the A Horizon is less than 14 inches thick**
  - c. **The soils are very poorly drained**
  - d. **None of the above**
  
4. **The type of strip cropping that uses a single strip of meadow to keep silt out of a pond or other area to be protected is called:**
  - a. **Wind Strip Cropping**
  - b. **Contour Strip Cropping**
  - c. **Border Strip Cropping**
  - d. **None of the Above**
  
5. **Adequate treatment of effluent is difficult if the soil:**
  - a. **is shallow to bedrock**
  - b. **is slowly permeable**
  - c. **is subject to periodic flooding**
  - d. **all of the above**

6. Which of the following Shrink-swell ratings would have a percent volume change of 14%?
- very high
  - low
  - moderate
  - high
7. Which of the following internal drainage classes would have a Munsell chroma of 3 or higher and value of 3 or higher?
- very poorly drained
  - well drained
  - poorly drained
  - somewhat poorly drained
8. \_\_\_\_\_ is land that occurs down slope from some adjacent land and receives sediments from these adjacent lands.
- Overwash
  - Gullied Land
  - Geologic
  - Calcareous
9. Which of the following is false regarding calcareous conditions?
- Lowers the pH below neutral and limits the availability of P and Fe.
  - Extra P and K will have to be added
  - Soybeans will suffer from iron deficiency
  - Influences the type and amount of herbicides to use
10. Which of the following is true regarding a Class II soil?
- Land with slopes between 5-9%
  - Land is colored red on land capability maps
  - Good land that can be adapted for nearly any use by taking some precautions to meet its needs.
  - All of the above

11. \_\_\_\_\_ is a remnant of a former bottom land and represents a time when the stream was at a higher level.
- Bottomland
  - Footslope
  - Upland
  - Terrace
12. \_\_\_\_\_ is a mineral horizon.
- R Horizon
  - C Horizon
  - E Horizon
  - D Horizon
13. The soil color is usually a good indicator of the organic matter content up to \_\_\_\_\_%.
- 1-2%
  - 4-5%
  - 6-8%
  - 10-12%
14. What would be the Munsell color of a moderately dark top soil?
- 5
  - 3
  - 2
  - 4
15. Which of the following would have a 9 inch top soil?
- Thick
  - Moderately Thin
  - Moderately Thick
  - Thin
16. Which of the following would have a Medium texture?
- Sandy Loam
  - Clay Loam
  - Silt Loam
  - Silty Clay

17. \_\_\_\_\_ are spots of one or more contrasting colors on the background of another color.
- Parent Material
  - Colluvium
  - Mottles
  - Overwash
18. Any soil less than \_\_\_\_\_ inches deep is likely to be restrictive for most plants
- 20 inches
  - 30 inches
  - 40 inches
  - 50 inches
19. \_\_\_\_\_ soils are dominantly silt-sized rock material transported and deposited by wind.
- Residuum
  - Alluvium
  - Loess
  - Colluvium
20. \_\_\_\_\_ soils show the influence of both grass and trees and have E horizons 1-3 inches thick.
- Forest
  - Transition
  - Prairie
  - Peat
21. Surface drainage depends on the following:
- Slope
  - Surface Roughness
  - Vegetative Cover
  - All of the above
22. Which of the following is true about a Class VI soil?
- Land needs some special management even when used for pasture or woodland.
  - Colored orange on land capability maps
  - Has a slope of 18-30%
  - All of the above

23. This is the single most effective and least costly system to reduce soil erosion on level and gently sloping lands.
- Contouring
  - Terracing
  - Grass Waterways
  - Conservation Tillage
24. Which of the following is true about a medium productivity potential?
- Have slopes of 9-18%
  - Soils can be used for growing row crops at least half of the time but not continuously.
  - Limited to sod based crops, permanent pasture, or woodland
  - All of the above
25. \_\_\_\_\_ is permanent grass vegetation to prevent gullying in places where water flows quickly enough to erode unprotected drainage ways.
- Grass waterways
  - Contouring
  - Conservation Tillage
  - Surface drainage
26. Which of the following is true about a Cam-line?
- Extend the Cam-line to a length of 100 feet in any direction across the field
  - The tabs are one foot apart
  - Always use 3 observations when estimating residue
  - All of the above
27. \_\_\_\_\_ can be built where slopes are long and relatively uniform and are more effective on steep slopes.
- Intermittent Drainageways
  - Terraces
  - Grass Waterways
  - None of the Above

- 28. If you have a sandy clay texture which group would you put it in?**
- a. Moderately Coarse**
  - b. Medium**
  - c. Moderately Fine**
  - d. Fine**
- 29. If you have a soil that is 25 inches deep, what soil depth group would it fit into?**
- a. Shallow**
  - b. Moderately Deep**
  - c. Moderately Shallow**
  - d. Deep**
- 30. What is soil material formed in place by the weathering of bedrock into a disintegrated mass.**
- a. Loess**
  - b. Glacial Till**
  - c. Colluvium**
  - d. Residuum**
- 31. Usually the most fertile soil is found in the**
- a. A Horizon**
  - b. B Horizon**
  - c. C Horizon**
  - d. R Horizon**
- 32. Soils that shrink-swell by more than \_\_\_\_ percent affect the stability of basement walls, foundation, patio, sidewalks, and concrete floors.**
- a. 2**
  - b. 7**
  - c. 15**
  - d. 9**
- 33. For contest purposes, the number of land capabilities classes is**
- a. 6**
  - b. 7**
  - c. 8**
  - d. 10**

- 34. If the upper 12 inches of a black A horizon contain seasonal high water, what could appear?**
- a. E Horizon**
  - b. Rust colored mottles**
  - c. Gray colored mottles**
  - d. All of the above**
- 35. The landscape position most likely to accumulate alluvial material is:**
- a. Footslope**
  - b. Intermittent drainageway**
  - c. Upload**
  - d. Bottomland**
- 36. A very slow rate of erosion under natural conditions is called**
- a. Rill erosion**
  - b. Natural erosion**
  - c. Geologic erosion**
  - d. Geographical erosion**
- 37. Which of the following characteristics is judged as a surface feature?**
- a. runoff**
  - b. erosion**
  - c. slope**
  - d. land use**
- 38. The depth of soil is defined as:**
- a. the thickness of the top soil**
  - b. the top 9 to 12 inches of soil**
  - c. the thickness of soil above a layer that stops plant root development**
  - d. the depth down to the C horizon**

- 39. Which of the following is NOT a classification of native vegetation?**
- a. transition**
  - b. peat**
  - c. prairie**
  - d. forest**
- 40. Conventional septic tank absorption field has the laterals placed at a depth of \_\_\_\_\_ to \_\_\_\_\_ inches below the ground surface.**
- a. 24 to 30**
  - b. 32 to 40**
  - c. 18 to 20**
  - d. 12 to 15**



## 2007 Iowa FFA Soils CDE – Test Key

1. c
2. d
3. a
4. c
5. d
6. c
7. b
8. a
9. a
10. c
11. d
12. c
13. b
14. b
15. c
16. c
17. c
18. a
19. c
20. b
21. d
22. d
23. d
24. b
25. a
26. c
27. b
28. d
29. c
30. d
31. a
32. d
33. c
34. b
35. d
36. c
37. c
38. c
39. b
40. a