

# Iowa FFA Soils CDE Test 2009

1. Tillage and crop rows oriented across slopes is called
  - a. strip cropping
  - b. contouring
  - c. terracing
  - d. buffer strips
  
2. Soils which have partially decomposed organic materials in the O and or A horizon may be classified as
  - a. marsh soils
  - b. permeable
  - c. moderately eroded
  - d. calcareous
  - e. none of the above
  
3. Land with a 5-14% slope and difficulty draining will fall into which land capability class?
  - a. I
  - b. II
  - c. III
  - d. IV
  
4. Slopes may be gentle to steep, short or long, and smooth and variable. All of these characteristics influence
  - a. soil development
  - b. runoff
  - c. erosion
  - d. land use
  - e. all the above
  
5. A level line around a hill or slope laid out and marked by a surveyor to establish a line for the farmer to follow when planting on the contour, is called
  - a. cam line
  - b. chalk line
  - c. key contour line
  - d. none of the above

6. An average loam soil contains
  - a. 40 percent sand, 30 percent silt, 20 percent clay
  - b. 40 percent sand, 40 percent clay, 20 percent silt
  - c. 20 percent sand, 40 percent silt, 40 percent clay
  - d. 50 percent sand, 30 percent silt, 20 percent clay
  - e. none of the above
  
7. A clinometer is a measuring device you use to measure
  - a. soil depth
  - b. soil texture
  - c. soil residue
  - d. change in elevation/length of slope X 100
  - e. none of the above
  
8. Land with a slope of 0-1 percent with clayey textures that are difficult to drain are considered land capability class
  - a. I
  - b. II
  - c. III
  - d. IV
  - e. None of the above
  
9. In most cases the most fertile soil is found in the following horizon
  - a. R
  - b. B
  - c. C
  - d. E
  - e. None of the above
  
10. A vertical section exposing the various layers of a soil is called
  - a. root zone
  - b. soil horizon
  - c. soil profile
  - d. subsurface soil
  - e. none of the above

11. Water holding capacity of the soil is affected by the soil texture. As the particles decrease in size, the water holding capacity
  - a. increases
  - b. decreases
  - c. not affected by
  - d. all the above
  
12. The changing of crops grown in a field, usually from year to year, is a conservation practice called
  - a. cover crop
  - b. grassed waterway
  - c. grazing system
  - d. crop rotation
  - e. none of the above
  
13. Productivity indexes reflect the physical and chemical properties of the soil in terms of commonly grown crops. In Iowa, the index is called
  - a. ASCS
  - b. NRCS
  - c. RSC
  - d. SCS
  - e. None of the above
  
14. The best example of an intermittent drainageway is a
  - a. cover crop
  - b. grass waterway
  - c. filter strip
  - d. buffer strip
  
15. The R horizon is
  - a. hard bedrock
  - b. soft bedrock
  - c. loose underlying material
  - d. a and b are correct
  - e. all of the above

16. Horizons possess different air and water ratios, which soil horizon should have the best air to water ratio
- A
  - B
  - C
  - E
  - None of the above
17. There are \_\_\_\_\_ land capability classes based on the degree of hazard or limitation for use of the land
- 4
  - 5
  - 6
  - 7
  - None of the above are correct
18. Spots of one or more contrasting colors on a background of another color is called
- potholes
  - ribbons
  - kneaded samples
  - mottles
  - none of the above
19. The field test method of determining soil texture is
- mechanical analysis
  - kneaded sample
  - pothole
  - mottles
  - none of the above
20. As a general rule of thumb, if individual sand grains can be seen, the sample usually contains at least a minimum of \_\_\_\_\_ percent sand.
- 2
  - 5
  - 9
  - 15
  - none of the above

21. Soils generally suited for a source of topsoil
- generally have more than 40 inches of soil depth
  - have textures that are in the medium category
  - have a dark or black A horizon color
  - all the above
  - none of the above
22. Shrink swell of a soil relates to the percent of volume change during wetting and drying. Soils whose volume change by more than \_\_\_\_\_ percent will affect the stability of basements, foundations, and concrete floors.
- 2
  - 4
  - 6
  - 8
  - none of the above
23. In evaluating building sites for houses with basements, the bedrock is a limitation when soft bedrock is at a depth of
- one foot or less
  - two feet or less
  - five feet or less
  - none of the above
24. Most of the time, calcareous soil conditions cause
- soil acidity
  - iron deficiency in soybeans
  - increased availability of phosphorous for corn and alfalfa
  - decreased availability of phosphorous for corn and alfalfa
  - none of the above
  - none of the above
25. Soils that form little or no ribbon and are obviously low in sand must be
- high in silt and coarse textured
  - high in clay and fine textured
  - high in sand and medium textured
  - none of the above

26. The E horizon is all of the following except
- lighter in color than A
  - lower in organic matter than A
  - contains more clay than A
  - found in forest soils and other intensely leached soils
27. A soil profile is
- the soils surface features
  - the landscape position of the soil
  - composed of various layers called soil horizons
  - the major factor in determining which tillage practices are best suited for the slope.
  - none of the above
28. In regard to soil parent material peat is
- ground up materials left by glaciers
  - material formed in place by the weathering of bedrock
  - silt sized rock material deposited by wind
  - organic materials accumulated in bogs
  - none of the above
29. The native vegetation of soils that show the influence of both grass is called
- forest
  - prairie
  - marsh
  - residuum
  - none of the above
30. When using the ribbon test for soil texture, a smooth floury feel would indicate the soil is high in \_\_\_\_\_ and \_\_\_\_\_ textured.
- clay and medium
  - sand and medium
  - silt and medium
  - silt and moderately fine
  - none of the above

31. The measure of the amount of water held and the rate water moves in the soil profile is called
- internal drainage
  - external drainage
  - surface drainage
  - subsurface drainage
  - both a and d are correct
32. \_\_\_\_\_ is the very slow rate of erosion which occurs under natural conditions that removes weathered material from the soil surface
- accelerated erosion
  - rill erosion
  - gully erosion
  - moderate erosion
  - none of the above

33. Predict the percent ground cover after planting corn using the following information

	<u>Tillage operation</u>	<u>Ground Cover Remaining</u>
a. 45%	After Harvest	.90
b. 36%	Winter Decomposition	.80
c. 29%	Spring Tillage	.50
d. 26%	Plant	.80

34. Regarding the potential of land for growing rowcrops, medium soils
- can be used for rowcrops at least half the time but not continuously even with adequate management practices
  - can be used for growing rowcrops at least half the time with the use of adequate management practices
  - are not suited for rowcrops
  - can be used for continuous rowcrops
  - none of the above
35. If a land capability map shows an area colored orange, this land
- can be used occasionally for rowcrops but is better suited for hay and pasture
  - needs some special management even when used for hay and pasture
  - is suitable for nearly any use with no hazards or limitations
  - needs contouring and conservation tillage
  - is suitable for rowcrops

36. Calcareous soils raise the ph above neutral and limit the availability of
- f. nitrogen
  - g. calcium
  - h. phosphorous
  - i. potassium
  - j. all the above
37. On land capability maps, Class IV land is colored
- a. orange
  - b. green
  - c. blue
  - d. brown
  - e. none of the above
38. An earthen structure that intercepts runoff on moderate to steep slopes by transforming long slopes into a series of short slopes is a
- a. cross contour embankment
  - b. diversion
  - c. filter strip
  - d. terrace
39. What is the percent slope on land where the elevation falls .5 feet in 25 feet of horizontal distance?
- a. 6%
  - b. 2%
  - c. 9%
  - d. 12%
  - e. none of the above
40. A conventional septic tank absorption field has laterals placed at a depth of \_\_\_\_\_ inches below the ground surface.
- a. 12-24
  - b. 30-34
  - c. 34-40
  - d. 48-64
  - e. none of the above are correct

# Iowa FFA Soils CDE Test KEY

## 2009

- |     |   |     |   |
|-----|---|-----|---|
| 1.  | B | 39. | B |
| 2.  | E | 40. | E |
| 3.  | C |     |   |
| 4.  | E |     |   |
| 5.  | C |     |   |
| 6.  | E |     |   |
| 7.  | D |     |   |
| 8.  | C |     |   |
| 9.  | E |     |   |
| 10. | C |     |   |
| 11. | B |     |   |
| 12. | D |     |   |
| 13. | E |     |   |
| 14. | B |     |   |
| 15. | D |     |   |
| 16. | A |     |   |
| 17. | E |     |   |
| 18. | D |     |   |
| 19. | E |     |   |
| 20. | D |     |   |
| 21. | D |     |   |
| 22. | E |     |   |
| 23. | D |     |   |
| 24. | E |     |   |
| 25. | D |     |   |
| 26. | C |     |   |
| 27. | C |     |   |
| 28. | D |     |   |
| 29. | B |     |   |
| 30. | C |     |   |
| 31. | E |     |   |
| 32. | E |     |   |
| 33. | C |     |   |
| 34. | B |     |   |
| 35. | B |     |   |
| 36. | C |     |   |
| 37. | C |     |   |
| 38. | D |     |   |