2017 Iowa FFA Soil Judging CDE Exam

1. Landscape positions vary in soil composition and makeup. What landscape position would be characterized by having strata and lenses of different textures in the profile:
   a. Upland
   b. Footslope
   c. Terrace
   d. Bottomland
   e. All landscapes have this characteristic in common

2. Slope is an important characteristic in regards to the inherent potential of land. Slopes can be gentle to steep, short or long, and smooth or variable. All of these characteristics influence:
   a. Soil development
   b. Erosion
   c. Land use
   d. Runoff
   e. All of the above

3. The upper part of the soil usually contains the:
   a. The most plant roots
   b. Lightest color
   c. Accumulation of organic matter
   d. Both A & C are the correct answer
   e. A, B, and C are all correct

4. In comparison to the overlying horizon, if present, an E horizon is usually:
   a. Darker in color
   b. Higher in organic matter
   c. Higher in clay content
   d. All of the above
   e. None of the above

5. A soil with 6 inches of A horizon with an accompanying 3 inches of E horizon directly below it would be classified as:
   a. Thick
   b. Moderately thick
   c. Moderately thin
   d. Thin
   e. An A/E complex

6. The proportions of sand, silt, and clay in soil determines its:
   a. Aggregates
   b. Structure
   c. Crystallization
   d. Texture
   e. None of the above

7. When compared to the A horizon, typically the B horizon's texture has a:
   a. Higher proportion of clay
   b. Higher proportion of silt
   c. Higher proportion of sand
   d. Higher proportion of organic matter
   e. Lesser proportion of water

8. Uniform brown or dark brown or strong brown colors of the B Horizon indicate:
   a. Well aerated conditions
   b. Poor natural drainage
   c. Poor root penetration
   d. Highly fertile soils
   e. High clay content

9. Spots of one or more contrasting colors on a background of another color are called:
   a. Potholes
   b. Ribbons
   c. Knead
   d. Mottles
   e. None of the above

10. The properties of _____ tend to be strongly expressed compared to the amount present:
    a. Grains
    b. Sand
    c. Silt
    d. Clay
    e. Aggregates

11. A soil with a profile depth of 47 inches would be classified as:
    a. Very deep
    b. Deep
    c. Moderately deep
    d. Shallow
    e. Very shallow

12. In regard to soil parent material, alluvium is:
    a. Ground up material left by glaciers
    b. Materials moved down steep slopes by gravity
    c. Sediments deposited by running water
    d. Organic materials that accumulated in bogs
    e. None of the above

13. What is the native vegetation of an area that has both grass and trees?
    a. Forest
    b. Prairie
    c. Transition
    d. Marsh
    e. Wetland

14. A tract of land was judged as having 6 percent slope. The tract of land is also harvested corn silage where little residue is present. The surface drainage class is most likely:
    a. Rapid
    b. Medium
    c. Slow
    d. Ponded
    e. It does not matter, residues are not measured until after planting

15. The amount of water held and the rate the water moves in the soil profile is called:
    a. External drainage
    b. Redox rate impact
    c. Internal drainage
    d. Erosion retention
    e. None of the above

16. A very slow rate of erosion under natural conditions is called:
    a. Authentic erosion
    b. Rill erosion
    c. Accelerated erosion
    d. Geological erosion
    e. None of the above

17. Water evaporating from wet soils leaves behind enough ___ to cause a condition known as calcareous soils.
    a. Calcium carbonate
    b. Calcium phosphate
    c. Sodium chloride
    d. Hydrochloric acid residue
    e. None of the above

18. Calcareous soils:
    a. Lower the soil pH
    b. Raise the soil pH
    c. Limits the availability of Phosphorus
    d. Both B & C
    e. None of the above

19. A limitation due to rock or rock fragments is serious when such particles contain ___ percent by volume.
    a. 2
    b. 5
    c. 10
    d. 15
    e. None of the above

20. Land with a deep, somewhat poorly drained, medium textured soil with a 0-2 percent slope would be classified as:
    a. Class I
    b. Class Iw
    c. Class IIw
    d. Class IIe
    e. None of the above

21. According to your soil judging manual, there are eight different land classes used to classify land. Of these eight classes, how many classes cannot have row crops grown regularly on them based on the steepness of the hill and subsequent erosion potential?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5

22. Land capability subclasses are used to denote the type of hazard or limitation restricting the use of soils grouped in land classes:
    a. 1-4 since these are row-cropped
    b. 1-8 since all soil is important to preserve
    c. 5-8 since these soils are at the greatest risk
    d. 1-7 because 8 is not suited for agriculture
    e. 2-8 are the only ones

23. Soil can be rated in one of four classes based on its potential for intensive row cropping: high, medium, low and unsuited. What range of slope below can be considered as high potential for intensive row cropping?
    a. 0-5 percent
    b. 0-9 percent
    c. 0-14 percent
    d. 0-18 percent
    e. None of the above

24. An earthen embankment that diverts runoff water from a specific place is a _____.
    a. Diversion
    b. Filter strip
    c. Grass and sediment control basin
    d. Terrace
    e. None of the above

25. If a soil is well aerated and has low water holding capacity:
    a. Subsurface drainage is needed if the soil is high in organic matter
    b. Subsurface drainage is needed if the soil is calcareous
    c. Subsurface drainage is needed if the soil is also uniform brown
    d. Subsurface drainage is needed if the soil is low in clay content
    e. Subsurface drainage is not needed

26. The best intermittent drainageway would be what?
    a. Cover crop
    b. Grass waterway
    c. Filter strip
    d. Buffer strip
    e. None of the above

27. Tillage and row crops oriented across slopes are called:
    a. Strip cropping
    b. Contouring
    c. Terracing
    d. Buffer strips
    e. None of the above

28. A system of growing row crops and meadow crops in alternating sections on the contour, during the same growing season, on the same tract of land, is referred to as:
    a. Strip cropping
    b. Contouring
    c. Terracing
    d. Tiling
    e. All of the above are true

29. Terracing is the practice of constructing ridges and channels across the slope to intercept runoff water. The type and kind of terrace that is constructed on land depends of which of the following:
    a. Slope of the land
    b. Erosion class of the land
    c. Internal drainage
    d. All of the above
    e. None of the above

30. On slopes up to 5%, the single most effective and least costly system to reduce soil erosion is/are:
    a. Grass waterway
    b. Contouring
    c. Strip cropping
    d. Conservation tillage
    e. Tiling

31. In evaluating building sites for houses with basements, bedrock is a limitation when soft bedrock is found:
    a. Less than three feet
    b. Less than five feet
    c. Less than six feet
    d. Soft bedrock is always a problem regardless of depth
    e. Soft bedrock is never a problem regardless of depth

32. A soil contains over 12 inches of black A horizon, underlain by gray colors with red redox features. What could be expected?
    a. Oxygen is always present in the top 12 inches
    b. This soil has a high seasonal water table
    c. The black A material has accumulated from elsewhere
    d. Depth to bedrock is at least 6 feet
    e. None of the above

33. Which landscape position could pose a limitation for houses with basements due to flooding?
    a. Upland
    b. Footslope
    c. Terrace
    d. Bottomland
    e. None of the above

34. Shrink-swell of the soil relates to:
    a. The external drainage of the soil
    b. The expansion of the soil when it dries
    c. The percent of volume change during wetting and drying
    d. A factor that needs to be considered with a septic tank absorption field
    e. Both c and d are correct

35. In evaluating sites for conventional septic tank absorption fields, bedrock is a limitation when bedrock is found:
    a. Only within the first three feet of a soil profile
    b. Only within the first five feet of a soil profile
    c. Only within the first six feet of a soil profile
    d. Bedrock is always a problem
    e. Bedrock is never a problem

36. Soils best suited for adequate treatment of effluent in an absorption field are those that occur in which landscape position?
    a. Upland
    b. Footslope
    c. Intermittent drainageway
    d. Bottomland
    e. None of the above

37. Evidence of water table is a limitation for conventional septic tank absorption fields if:
    a. No redox features within the first 72 inches of the soil profile
    b. No redox features within the first 40 inches of the soil profile
    c. No redox features within the first 20 inches of the soil profile, but redox features found between 20 and 40 inches of the soil profile
    d. Redox features found within the first 40 inches of the soil profile
    e. C and D above are the best choices

38. Soils are not suited for a source of topsoil when the texture of the topsoil is:
    a. Coarse
    b. Moderately Coarse
    c. Moderately Fine
    d. Fine
    e. All of the above

39. Soils generally suited for a source of topsoil?
    a. Generally have more than 40 inches of total soil profile depth
    b. Have textures that are in the medium category
    c. Have a dark or black A horizon color
    d. All the above
    e. None of the above

40. Soils that are generally not suited for a source of topsoil due to evidence of water table are:
    a. Very poorly drained
    b. Poorly drained
    c. Well drained
    d. Both A & B
    e. None of the above

Answer Key

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

Iowa Soil Judging Score Card

See Soil Judging in Iowa, PM 1106, for interpretation of this form. Mark only one box per question.

Soil Site No. 1 Contestant Name Official

Contestant No. _____ School Name _____

Part I. Surface Features (2 points)

1. Landscape Position	Upland	a	X
	Intermittent drainageways	b	
	Footslope	c	
	Terrace	d	
	Bottomland	e	
2. Slope	Nearly level, 0-2%	a	
	Gently sloping, 2-5%	b	X
	Moderately sloping, 5-9%	c	
	Strongly sloping, 9-14%	d	
	Steep, greater than 14%	e	
		Part I Total	

Part II. Soil Features—The Profile (17 points)

3. Moist Color of A1 or Ap	Dark	a	X
	Moderately dark	b	
	Light	c	
	Very light	d	
4. E Horizon Present	Yes	a	
	No	b	X
5. Thickness of A Horizon or A+E Horizons	Thick, more than 12"	a	X
	Moderately thick, 7-12"	b	
	Moderately thin, 3-7"	c	
	Thin, less than 3"	d	
6. Texture of A Horizon	Coarse	a	
	Moderately coarse	b	
	Medium either or (	c	X
	Moderately fine	d	X
	Fine	e	
7. B Horizon Present	Yes	a	X
	No	b	
8. Moist Color of B Horizon (or C Horizon if B is absent)	Uniform brown or dark brown or strong brown	a	
	Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features	b	X
	Grayish brown or olive gray, no redox features	c	
	Grayish brown or olive gray with gray or rust redox features	d	
	None of the above	e	
9. Moist color of B Horizon (or C Horizon if B is absent)	Gray with redox features	a	
	Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores	b	
	Black. May contain few rust redox	c	
	None of the above	d	X

Part II. (continued)

10. Texture of B Horizon (or C Horizon if B is absent or buried A if 24" overwash)	Coarse	a	
	Moderately coarse	b	
	Medium	c	
	Moderately fine	d	X
	Fine	e	
11. Soil Depth	Deep, more than 40"	a	X
	Moderately deep, 30-40"	b	
	Moderately shallow, 20-30"	c	
	Shallow, less than 20"	d	
12. Soil Parent Material	Glacial drift or local sediments from glacial drift	a	X
	Loess	b	
	Alluvium or colluvium	c	
	Residuum	d	
	Peat or organic	e	
13. Native Vegetation	Forest	a	
	Transition	b	
	Prairie	c	X
	Marsh	d	
14. Surface Drainage	Rapid	a	
	Medium	b	X
	Slow	c	
	Ponded	d	
15. Internal Drainage	Excessively drained	a	
	Well drained	b	X
	Somewhat poorly drained	c	
	Poorly drained	d	
	Very poorly drained	e	
16. Erosion Class	Overwash	a	
	Uneroded or slightly eroded	b	X
	Moderately eroded	c	
	Severely eroded	d	
	Gullied land	e	
17. Calcareous Surface Soil	Yes	a	
	No	b	X
18. Calcareous B Horizon (or C Horizon if B is absent)	Yes	a	
	No	b	X
19. Stoniness or Rockiness	Yes	a	
	No	b	X
		Part II Total	

(1)

Part III. Land Capability Classification and Productivity Potential (4 points)

20. Land Capability Class	I. Few limitations	a	
	II. Some limitations	b	X
	III. Severe limitations	c	
	IV. Very severe limitations	d	
	None of the above	e	
21. Land Capability Class	V. Noncropland	a	
	VI. Unsuited for cultivation	b	
	VII. Restricted for agric.	c	
	VIII. Nonagricultural	d	
	None of the above	e	X
22. Land Capability Subclass	None	a	
	e erosion	b	X
	w wetness	c	
	s soil	d	
	c climate	e	
23. Productivity Potential	High	a	X
	Medium	b	
	Low	c	
	Unsuited	d	
		Part III Total	

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes	a	
	No	b	X
25. Subsurface drainage	Yes	a	
	No	b	X
26. Grass waterway	Yes	a	
	No	b	X
27. Contouring	Yes	a	X
	No	b	
28. Strip cropping	Yes	a	X
	No	b	
29. Terracing	Yes	a	X
	No	b	
30. Conservation tillage	Yes	a	X
	No	b	
		Part IV Total	

Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

31. Bedrock	Yes	a	
	No	b	X
32. Evidence of water table	Yes	a	X
	No	b	
33. Flooding	Yes	a	
	No	b	X
34. Shrink-swell	Yes	a	X
	No	b	

Limitations for conventional septic tank absorption fields

35. Bedrock	Yes	a	
	No	b	X
36. Flooding	Yes	a	
	No	b	X
37. Evidence of water table	Yes	a	X
	No	b	

Source of topsoil

38. Texture group	Suitable	a	
	Not Suitable	b	X
39. Thickness of A horizon	Suitable	a	X
	Not Suitable	b	
40. Evidence of water table	Suitable	a	X
	Not Suitable	b	
		Part V Total	

Scoring Summary

Part I	
Part II	
Part III	
Part IV	
Part V	
Total Score	

IOWA STATE UNIVERSITY
Extension and Outreach

Prepared by Gerald A. Miller, extension agronomist.
PM 1107 Revised June 2013
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Iowa Soil Judging Score Card

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Soil Site No. 2 Contestant Name official

Contestant No. _____ School Name _____

Part I. Surface Features (2 points)

1. Landscape Position	Upland	a	X
	Intermittent drainageways	b	
	Footslope	c	
	Terrace	d	
	Bottomland	e	
2. Slope	Nearly level, 0-2%	a	
	Gently sloping, 2-5%	b	X
	Moderately sloping, 5-9%	c	
	Strongly sloping, 9-14%	d	
	Steep, greater than 14%	e	
		Part I Total	

Part II. Soil Features—The Profile (17 points)

3. Moist Color of A1 or Ap	Dark	a	X
	Moderately dark	b	
	Light	c	
	Very light	d	
4. E Horizon Present	Yes	a	
	No	b	X
5. Thickness of A Horizon or A+E Horizons	Thick, more than 12"	a	
	Moderately thick, 7-12"	b	X
	Moderately thin, 3-7"	c	
	Thin, less than 3"	d	
6. Texture of A Horizon	Coarse	a	
	Moderately coarse	b	
	Medium	c	X
	Moderately fine	d	
	Fine	e	
7. B Horizon Present	Yes	a	X
	No	b	
8. Moist Color of B Horizon (or C Horizon if B is absent)	Uniform brown or dark brown or strong brown	a	X
	Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features	b	
	Grayish brown or olive gray, no redox features	c	
	Grayish brown or olive gray with gray or rust redox features	d	
	None of the above	e	
9. Moist color of B Horizon (or C Horizon if B is absent)	Gray with redox features	a	
	Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores	b	
	Black. May contain few rust redox	c	
	None of the above	d	X

Part II. (continued)

10. Texture of B Horizon (or C Horizon if B is absent or buried A if 24" overwash)	Coarse	a	
	Moderately coarse	b	
	Medium	c	X
	Moderately fine	d	
	Fine	e	
11. Soil Depth	Deep, more than 40"	a	X
	Moderately deep, 30-40"	b	
	Moderately shallow, 20-30"	c	
	Shallow, less than 20"	d	
12. Soil Parent Material	Glacial drift or local sediments from glacial drift	a	X
	Loess	b	
	Alluvium or colluvium	c	
	Residuum	d	
	Peat or organic	e	
13. Native Vegetation	Forest	a	
	Transition	b	
	Prairie	c	X
	Marsh	d	
14. Surface Drainage	Rapid	a	
	Medium	b	X
	Slow	c	
	Ponded	d	
15. Internal Drainage	Excessively drained	a	
	Well drained	b	X
	Somewhat poorly drained	c	
	Poorly drained	d	
	Very poorly drained	e	
16. Erosion Class	Overwash	a	
	Uneroded or slightly eroded	b	
	Moderately eroded	c	X
	Severely eroded	d	
	Gullied land	e	
17. Calcareous Surface Soil	Yes	a	
	No	b	X
18. Calcareous B Horizon (or C Horizon if B is absent)	Yes	a	
	No	b	X
19. Stoniness or Rockiness	Yes	a	
	No	b	X
		Part II Total	

Part III. Land Capability Classification and Productivity Potential (4 points)

20. Land Capability Class	I. Few limitations	a	
	II. Some limitations	b	X
	III. Severe limitations	c	
	IV. Very severe limitations	d	
	None of the above	e	
21. Land Capability Class	V. Noncropland	a	
	VI. Unsuited for cultivation	b	
	VII. Restricted for agric.	c	
	VIII. Nonagricultural	d	
	None of the above	e	X
22. Land Capability Subclass	None	a	
	e erosion	b	X
	w wetness	c	
	s soil	d	
	c climate	e	
23. Productivity Potential	High	a	X
	Medium	b	
	Low	c	
	Unsuited	d	
			Part III Total

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes	a	
	No	b	X
25. Subsurface drainage	Yes	a	
	No	b	X
26. Grass waterway	Yes	a	
	No	b	X
27. Contouring	Yes	a	X
	No	b	
28. Strip cropping	Yes	a	X
	No	b	
29. Terracing	Yes	a	X
	No	b	
30. Conservation tillage	Yes	a	X
	No	b	
			Part IV Total

Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

31. Bedrock	Yes	a	
	No	b	X
32. Evidence of water table	Yes	a	X
	No	b	
33. Flooding	Yes	a	
	No	b	X
34. Shrink-swell	Yes	a	
	No	b	X
Limitations for conventional septic tank absorption fields			
35. Bedrock	Yes	a	
	No	b	X
36. Flooding	Yes	a	
	No	b	X
37. Evidence of water table	Yes	a	X
	No	b	
Source of topsoil			
38. Texture group	Suitable	a	X
	Not Suitable	b	
39. Thickness of A horizon	Suitable	a	
	Not Suitable	b	X
40. Evidence of water table	Suitable	a	X
	Not Suitable	b	
			Part V Total

Scoring Summary

Part I	
Part II	
Part III	
Part IV	
Part V	
Total Score	

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Prepared by Gerald A. Miller, extension agronomist.
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Iowa Soil Judging Score Card

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Soil Site No. 3 Contestant Name OFFICIAL

Contestant No. _____ School Name _____

Part I. Surface Features (2 points)

1. Landscape Position	Upland	a	X
	Intermittent drainageways	b	
	Footslope	c	
	Terrace	d	
	Bottomland	e	
2. Slope	Nearly level, 0-2%	a	
	Gently sloping, 2-5%	b	X
	Moderately sloping, 5-9%	c	
	Strongly sloping, 9-14%	d	
	Steep, greater than 14%	e	
		Part I Total	

Part II. Soil Features—The Profile (17 points)

3. Moist Color of A1 or Ap	Dark	a	X
	Moderately dark	b	
	Light	c	
	Very light	d	
4. E Horizon Present	Yes	a	
	No	b	X
5. Thickness of A Horizon or A+E Horizons	Thick, more than 12"	a	
	Moderately thick, 7-12"	b	X
	Moderately thin, 3-7"	c	
	Thin, less than 3"	d	
6. Texture of A Horizon	Coarse	a	
	Moderately coarse	b	
	Medium	c	X
	Moderately fine	d	
	Fine	e	
7. B Horizon Present	Yes	a	X
	No	b	
8. Moist Color of B Horizon (or C Horizon if B is absent)	Uniform brown or dark brown or strong brown	a	X
	Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features	b	
	Grayish brown or olive gray, no redox features	c	
	Grayish brown or olive gray with gray or rust redox features	d	
	None of the above	e	
9. Moist color of B Horizon (or C Horizon if B is absent)	Gray with redox features	a	
	Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores	b	
	Black. May contain few rust redox	c	
	None of the above	d	X

Part II. (continued)

10. Texture of B Horizon (or C Horizon if B is absent or buried A if 24" overwash)	Coarse	a	
	Moderately coarse	b	
	Medium	c	X
	Moderately fine	d	
	Fine	e	
11. Soil Depth	Deep, more than 40"	a	X
	Moderately deep, 30-40"	b	
	Moderately shallow, 20-30"	c	
	Shallow, less than 20"	d	
12. Soil Parent Material	Glacial drift or local sediments from glacial drift	a	X
	Loess	b	
	Alluvium or colluvium	c	
	Residuum	d	
	Peat or organic	e	
13. Native Vegetation	Forest	a	
	Transition	b	
	Prairie	c	X
	Marsh	d	
14. Surface Drainage	Rapid	a	
	Medium	b	X
	Slow	c	
	Ponded	d	
15. Internal Drainage	Excessively drained	a	
	Well drained	b	X
	Somewhat poorly drained	c	
	Poorly drained	d	
	Very poorly drained	e	
16. Erosion Class	Overwash	a	
	Uneroded or slightly eroded	b	
	Moderately eroded	c	X
	Severely eroded	d	
	Gullied land	e	
17. Calcareous Surface Soil	Yes	a	
	No	b	X
18. Calcareous B Horizon (or C Horizon if B is absent)	Yes	a	
	No	b	X
19. Stoniness or Rockiness	Yes	a	
	No	b	X
		Part II Total	

3

Part III. Land Capability Classification and Productivity Potential (4 points)

20. Land Capability Class	I. Few limitations	a	
	II. Some limitations	b	X
	III. Severe limitations	c	
	IV. Very severe limitations	d	
	None of the above	e	
21. Land Capability Class	V. Noncropland	a	
	VI. Unsuited for cultivation	b	
	VII. Restricted for agric.	c	
	VIII. Nonagricultural	d	
	None of the above	e	X
22. Land Capability Subclass	None	a	
	e erosion	b	X
	w wetness	c	
	s soil	d	
	c climate	e	
23. Productivity Potential	High	a	X
	Medium	b	
	Low	c	
	Unsuited	d	
		Part III Total	

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes	a	
	No	b	X
25. Subsurface drainage	Yes	a	
	No	b	X
26. Grass waterway	Yes	a	
	No	b	X
27. Contouring	Yes	a	X
	No	b	
28. Strip cropping	Yes	a	X
	No	b	
29. Terracing	Yes	a	X
	No	b	
30. Conservation tillage	Yes	a	X
	No	b	
		Part IV Total	

Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

31. Bedrock	Yes	a	
	No	b	X
32. Evidence of water table	Yes	a	X
	No	b	
33. Flooding	Yes	a	
	No	b	X
34. Shrink-swell	Yes	a	
	No	b	X

Limitations for conventional septic tank absorption fields

35. Bedrock	Yes	a	
	No	b	X
36. Flooding	Yes	a	
	No	b	X
37. Evidence of water table	Yes	a	X
	No	b	

Source of topsoil

38. Texture group	Suitable	a	X
	Not Suitable	b	
39. Thickness of A horizon	Suitable	a	
	Not Suitable	b	X
40. Evidence of water table	Suitable	a	X
	Not Suitable	b	
		Part V Total	

Scoring Summary

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Iowa Soil Judging Score Card

See Soil Judging in Iowa, PM 1106, for interpretation of this form. Mark only one box per question.

Soil Site No. 4 Contestant Name official

Contestant No. _____ School Name _____

Part I. Surface Features (2 points)

1. Landscape Position	Upland	a	
	Intermittent drainageways	b	
	Footslope	c	
	Terrace	d	
	Bottomland	e	X
2. Slope	Nearly level, 0-2%	a	X
	Gently sloping, 2-5%	b	
	Moderately sloping, 5-9%	c	
	Strongly sloping, 9-14%	d	
	Steep, greater than 14%	e	
		Part I Total	

Part II. Soil Features—The Profile (17 points)

3. Moist Color of A1 or Ap	Dark	a	X
	Moderately dark	b	
	Light	c	
	Very light	d	
4. E Horizon Present	Yes	a	
	No	b	X
5. Thickness of A Horizon or A+E Horizons	Thick, more than 12"	a	X
	Moderately thick, 7-12"	b	
	Moderately thin, 3-7"	c	
	Thin, less than 3"	d	
6. Texture of A Horizon	Coarse	a	
	Moderately coarse	b	
	Medium	c	
	Moderately fine	d	X
	Fine	e	
7. B Horizon Present	Yes	a	X
	No	b	
8. Moist Color of B Horizon (or C Horizon if B is absent)	Uniform brown or dark brown or strong brown	a	
	Uniform brown or dark brown or strong brown. Includes olive or yellowish or reddish cast or tints or other redox features	b	
	Grayish brown or olive gray, no redox features	c	
	Grayish brown or olive gray with gray or rust redox features	d	X
	None of the above	e	
9. Moist color of B Horizon (or C Horizon if B is absent)	Gray with redox features	a	
	Uniform gray. May have bluish or greenish cast or rust redox features around roots or small pores	b	
	Black. May contain few rust redox	c	
	None of the above	d	X

Part II. (continued)

10. Texture of B Horizon (or C Horizon if B is absent or buried A if 24" overwash)	Coarse	a	
	Moderately coarse	b	
	Medium	c	
	Moderately fine	d	X
	Fine	e	
11. Soil Depth	Deep, more than 40"	a	X
	Moderately deep, 30-40"	b	
	Moderately shallow, 20-30"	c	
	Shallow, less than 20"	d	
12. Soil Parent Material	Glacial drift or local sediments from glacial drift (either)	a	X
	Loess	b	
	Alluvium or colluvium	c	X
	Residuum	d	
	Peat or organic	e	
13. Native Vegetation	Forest	a	
	Transition	b	
	Prairie	c	X
	Marsh	d	
14. Surface Drainage	Rapid	a	
	Medium	b	
	Slow	c	X
	Ponded	d	
15. Internal Drainage	Excessively drained	a	
	Well drained	b	
	Somewhat poorly drained	c	X
	Poorly drained	d	
	Very poorly drained	e	
16. Erosion Class	Overwash	a	
	Uneroded or slightly eroded	b	X
	Moderately eroded	c	
	Severely eroded	d	
	Gullied land	e	
17. Calcareous Surface Soil	Yes	a	
	No	b	X
18. Calcareous B Horizon (or C Horizon if B is absent)	Yes	a	
	No	b	X
19. Stoniness or Rockiness	Yes	a	
	No	b	X
		Part II Total	

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Part III. Land Capability Classification and Productivity Potential (4 points)

20. Land Capability Class	I. Few limitations	a	X
	II. Some limitations	b	
	III. Severe limitations	c	
	IV. Very severe limitations	d	
	None of the above	e	
21. Land Capability Class	V. Noncropland	a	
	VI. Unsuited for cultivation	b	
	VII. Restricted for agric.	c	
	VIII. Nonagricultural	d	
	None of the above	e	X
22. Land Capability Subclass	None	a	X
	e erosion	b	
	w wetness	c	
	s soil	d	
	c climate	e	
23. Productivity Potential	High	a	X
	Medium	b	
	Low	c	
	Unsuited	d	
		Part III Total	

Part IV. Evaluation of Management Practices (7 points)

Practices to overcome soil limitations

24. Surface drainage	Yes	a	
	No	b	X
25. Subsurface drainage	Yes	a	X
	No	b	
26. Grass waterway	Yes	a	
	No	b	X
27. Contouring	Yes	a	
	No	b	X
28. Strip cropping	Yes	a	
	No	b	X
29. Terracing	Yes	a	
	No	b	X
30. Conservation tillage	Yes	a	X
	No	b	
		Part IV Total	

Part V. Suitability of Soils for Nonagricultural Uses (10 points)

Limitations for building sites for houses with basements

31. Bedrock	Yes	a	
	No	b	X
32. Evidence of water table	Yes	a	X
	No	b	
33. Flooding	Yes	a	
	No	b	X
34. Shrink-swell	Yes	a	X
	No	b	
Limitations for conventional septic tank absorption fields			
35. Bedrock	Yes	a	
	No	b	X
36. Flooding	Yes	a	
	No	b	X
37. Evidence of water table	Yes	a	X
	No	b	
Source of topsoil			
38. Texture group	Suitable	a	
	Not Suitable	b	X
39. Thickness of A horizon	Suitable	a	X
	Not Suitable	b	
40. Evidence of water table	Suitable	a	X
	Not Suitable	b	
		Part V Total	

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