

Soils Scantron 105481 (back side)

Written Exam					
1	21	41	61	81	
2	22	42	62	82	
3	23	43	63	83	
4	24	44	64	84	
5	25	45	65	85	
6	26	46	66	86	
7	27	47	67	87	
8	28	48	68	88	
9	29	49	69	89	
10	30	50	70	90	
11	31	51	71	91	
12	32	52	72	92	
13	33	53	73	93	
14	34	54	74	94	
15	35	55	75	95	
16	36	56	76	96	
17	37	57	77	97	
18	38	58	78	98	
19	39	59	79	99	
20	40	60	80	100	

Pit 1

Pit 2

Written Exam					
1	21	41	61	81	
2	22	42	62	82	
3	23	43	63	83	
4	24	44	64	84	
5	25	45	65	85	
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7	27	47	67	87	
8	28	48	68	88	
9	29	49	69	89	
10	30	50	70	90	
11	31	51	71	91	
12	32	52	72	92	
13	33	53	73	93	
14	34	54	74	94	
15	35	55	75	95	
16	36	56	76	96	
17	37	57	77	97	
18	38	58	78	98	
19	39	59	79	99	
20	40	60	80	100	

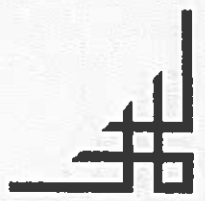
Pit 3

Available for Pit 4

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Soils - Fall Inverte - 3 pits

Questions in bold will have answers changed to match correct answers from pit + placard.



Minnesota Soils Scorecard Questions for Scantron # 105481

Use your scorecard to fill out the answers on the back side of your scantron

Bubble in the top portion of the sheet for Pits 1 (# 1-45) and 2 (#51-95)

Bubble in the bottom portion of the sheet for Pit 3 (# 1-45) (see diagram)

Pit 1 and Pit 2 Questions

Part 1: Surface soil

1. or 51. Surface Soil: Thickness in inches (2 pts)

- A. 7-9 inches
- B. 10-11 inches **Answers to be determined**
- C. 12-14 inches **by pit and placard.**
- D. 15-17 inches
- E. 18- 20 inches

2. or 52. Surface Soil Color (4 pts)

- A. Dark
- B. Medium
- C. Light

3. or 53 Surface: Soil Texture (5 pts)

- A. Coarse
- B. Moderately Coarse
- C. Medium
- D. Fine
- E. Very Fine

4. or 54. Surface: Gravel and Rock (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 2: Subsurface Soil

5. or 55. Subsurface Soil: Thickness in inches (2 pts)

- A. 7-9 inches
- B. 10-11 inches **Answers to be determined**
- C. 12-14 inches **by pit and placard.**
- D. 15-17 inches
- E. 18- 20 inches

6. or 56. Subsurface: Soil Color (4 pts)

- A. Bright
- B. Mottled
- C. Dull

7. or 57. Subsurface: Texture (5 pts)

- A. Coarse
- B. Moderately course
- C. Medium
- D. Fine
- E. Very Fine

8. or 58. Subsurface: Gravel and Rock (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 3: Underlying Material

9. or 59. Parent Material: Thickness in inches (2pts)

- A. 7-9 inches
- B. 10-11 inches **Answers to be determined**
- C. 12-14 inches **by pit and placard.**
- D. 15-17 inches
- E. 18- 20 inches

10. or 60. Underlying Material: Texture (5 pts)

- A. Coarse
- B. Moderately course
- C. Medium
- D. Fine
- E. Very Fine

11. or 61. Underlying Material: Gravel (2 pts)

- A. None to Few
- B. Gravelly
- C. Very Gravelly
- D. Extremely Gravelly

Part 4: Topography

12. or 62. Steepness of slope (3 pts)

- A. Nearly level – 2% or less
- B. Gently sloping - 3 – 6 %
- C. Moderately sloping - 7 – 12 %
- D. Strongly sloping - 13 - 18 %
- E. Steep – Greater than 18 %

13. or 63. Landscape position (3 pts)

- A. Upland
- B. Terrace – Footslope
- C. Bottom land – Flood Plains
- D. Depressional Area – No outlet

Part 5: Land Classification

14. or 64. Land Capability Classification (6 pts)

- A. Class 1
- B. Class 2 Answers to be determined
- C. Class 3 by pit and placard.
- D. Class 4
- E. Class 5

Part 6: Interpretation of Soils Features

15. or 65. Type of Material that Limits Depth (2 pts)

- A. None- No limiting materials
- B. Bedrock – Soft or hard
- C. Hardpan – Cemented
- D. Very gravelly sand or high water table

16. or 66. Parent Material (2 pts)

- A. Bedrock – Soft or hard
- B. Alluvium/ Outwash/ Lacustrine
- C. Till/ Loess/ Aeolian Sand
- D. Organic Materials – Peat or Muck

17. or 67. Depth favorable for roots & water (2 pts)

- A. Very deep- 60 inches or more
- B. Deep- 40 – 59 inches
- C. Moderately Deep- 20 – 39 inches
- D. Shallow- less than 20 inches

18. or 68. Air and water movement (2 pts)

- A. Very Rapid
- B. Rapid
- C. Moderate
- D. Slow

E. Total Available Water Capacity

Available water in horizon/ inch of soil

19. or 69. a. Surface Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

20. or 70. b. Subsoil Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

21. or 71. c. Underlying material Horizon (1 pt)

- A. 0.05
- B. 0.15
- C. 0.20

Available Water Capacity per Horizon

22. or 72 a. Surface Horizon (1 pt)

- A. 1.1 – 2.0
- B. 2.1 – 3.0 Answers to be determined
- C. 3.1 – 4.0 by pit and placard.
- D. 4.1 – 5.0
- E. 5.1-6.0

23. or 73. b. Subsoil Horizon (1 pt)

- A. 1.1 – 2.0
- B. 2.1 – 3.0 Answers to be determined
- C. 3.1 – 4.0 by pit and placard.
- D. 4.1 – 5.0
- E. 5.1-6.0

24 or 74. c. Underlying material (1 pt)

- A. 1.1 – 2.0
- B. 2.1 – 3.0 Answers to be determined
- C. 3.1 – 4.0 by pit and placard.
- D. 4.1 – 5.0
- E. 5.1-6.0

25. or 75. 3. Total available water capacity (5 ft. of soil)

- A. Very low – less than 3 inches (4 pts.)
- B. Low – 3.1 to 6 inches
- C. Moderate – 6.1 to 9 inches
- D. High – Over 9 inches

26. or 76. 4. Internal drainage (4 pts.)

- A. Well drained
- B. Moderately well drained
- C. Somewhat poorly drained
- D. Poorly or very poorly drained

Part 7 – Accelerated erosion

27 or 77. Amount of erosion (2 pt.)

- A. No erosion evident (less than 2 inches)
- B. Deposition (2 inches or greater)
- C. Erosion present (2 inches or greater)

28. or 78. Kind of erosion (2 pts.)

- A. None
- B. Active gully
- C. Wind erosion
- D. Sheet or rill

Part 8 – Need for erosion control

29. or 79. Water erosion (3 pts.)

- A. None to slight
- B. Crop cover, sod cover and conservation tillage
- C. Contour, strip crop and conservation tillage
- D. Grass waterways and gully control
- E. Woodland or permanent pasture, wildlife or recreation

30. or 80. Wind erosion (3 pts.)

- A. None to slight
- B. Mulch tillage, cover crop

Part 9

31. or 81. Drainage required (5 pts.)

- A. None required
- B. Surface and/or tile

Part 10 – Fertilizer and lime recommendations

32. or 82. Nitrogen pounds per acre (2 pts)

- A. 200 lbs/acre
- B. 170 lbs/acre Answers to be determined
- C. 130 lbs/acre by pit and placard.
- D. 70 lbs/acre

33. or 83. Phosphorous pounds per acre (2 pts.)

- A. 50
- B. 35 Answers to be determined
- C. 20 by pit and placard.
- D. 0

34. or 84. Potassium pounds per acre (2 pts.)

- A. 95
- B. 70 Answers to be determined
- C. 40 by pit and placard.
- D. 0

35. or 85. Lime tons per acre (2 pts.)

- A. 6.0
- B. 5.0 Answers to be determined
- C. 4.0 by pit and placard.
- D. 3.0

Part 11 – Land Use limitation

36. or 86. Dwellings (lawns), foundations, basements (3 pts)

- A. Slight
- B. Moderate
- C. Severe

Use limitation

37 or 87. Septic tank absorption fields (3 pts.)

- A. Slight
- B. Moderate
- C. Severe

Use limitation

38. or 88. Farm lagoons and holding basins (3 pts.)

- A. Slight
- B. Moderate
- C. Severe

39. or 89. % Slope (3 pts.)

- A. Zero to 2.0
- B. 2.1 to 6.0
- B. 6.1 to 12.0
- C. More than 12.0

40. or 90. Surface Soil Texture (1 pt.)

- A. Medium, moderate, coarse
- B. Coarse, fine, very fine

41. or 91. Flooding (3 pts.)

- A. None
- B. Any flooding

42. or 92. Internal Drainage Class (3 pts.)

- A. Well drained, moderate well drained
- B. Somewhat poorly drained
- C. Poorly drained

43. or 93. Permeability Class (2 pts)

- A. Vary rapid to rapid
- B. Moderate
- C. Slow to Very slow

44. or 94. Depth to Bedrock (Inches) (3 pts)

- A. More than 60
- B. 40 to 60
- C. Less than 60

45. or 95. Underlying Material (Shrink swell) (1pt)

- A. Coarse, mod. coarse, medium texture
- B. Fine texture
- C. Very fine texture