

2008-09 Ohio Urban Soils Exam

October 11, 2008

WRITTEN TEST- 15 questions- 60m points- test reference- 2002- Judging Land and Soil for Urban Use

1. In Ohio there are more than \_\_\_\_\_ significant and unique combinations of soil conditions.  
a) 300            b) 475            c) 600            d) 775
2. Soils with slopes greater than \_\_\_\_\_ percent have severe limitations for such uses as buildings with basements, septic tank absorption fields and driveways and local roads.  
a) 2                b) 6                c) 9                d) 12
3. A landform that often appears as a step-like surface or bench-like surface feature between the higher uplands and lower flood plains is called \_\_\_\_\_.  
a) depression            b) upland            c) terrace            d) hill slope
4. The soils on \_\_\_\_\_ are very young in age and lack the features that are developed in layers (horizons) of older soils.  
a) flood plains            b) swales            c) uplands            d) terraces
5. Slope is the \_\_\_\_\_ rise and fall of land in a measured \_\_\_\_\_ distance and is measured in percent (%).  
a) vertical & vertical    b) horizontal & horizontal    c) horizontal & vertical    d) vertical & horizontal
6. Surface soil texture refers to the texture of the normal plow layer or the upper \_\_\_\_\_ inches of topsoil.  
a) 4                b) 5                c) 6                d) 7
7. \_\_\_\_\_ is irregular spots of different colors that vary in number and size and generally indicate poor aeration and impeded drainage.  
a) ped                b) matrix            c) mottling            d) pore
8. \_\_\_\_\_ is material such as sand, silt, or clay deposited on land by streams.  
a) effluent            b) macropore            c) subsidence            d) alluvium
9. At least \_\_\_\_\_ of soil material is necessary between the bottom of the trenches and bedrock for adequate filtering of effluent.  
a) 1 foot            b) 2 feet            c) 3 foot            d) 4 foot
10. A \_\_\_\_\_ is a firm subsoil horizon that is hard and brittle when dry and somewhat brittle when moist.  
a) fragipan            b) mottling            c) glacial till            d) parent material
11. In general absorption fields must not be located closer than \_\_\_\_\_ feet to water well.  
a) 50                b) 100                c) 200                d) 300
12. Slight depressions, sometimes swampy areas found in generally level land is called a \_\_\_\_\_.  
a) outwash            b) flat                c) swale                d) dune
13. \_\_\_\_\_ is water transpired by vegetation plus water evaporated from the soil.  
a) available capacity    b) evapotranspiration    c) effluent            d) ground moraine
14. Slopes greater than \_\_\_\_\_ percent create erosion hazards, that if neglected, can cause driveways to wash out or become covered with debris.  
a) 1                b) 2                c) 3                d) 6
15. Settling of organic soils, soils containing semifluid layers, or materials that are dissolved in solution, is called \_\_\_\_\_.  
a) moraine            b) subsidence            c) solom                d) effluent

SOIL SURVEY- 15 questions- 40 points- test reference- Soil Survey of Hardin County 1994

1. In table 8, (KaB) Kendallville soil with slight equipment limitations, the ordination symbol is \_\_\_\_\_.  
a) 4C                      b) 4A                      c) 5A                      d) 4W
2. Table 1 shows the average daily maximum temperature in Kenton, Ohio from 1951-1984 for the year is \_\_\_\_\_ degrees F.  
a) 49.8                      b) 39.1                      c) 60.6                      d) 37.4
3. When reviewing table 12, building site development, (FoB) Fox soil has a \_\_\_\_\_ limitation for dwellings with basements.  
a) slight                      b) moderate                      c) severe                      d) no rating provided
4. Data from table 10, recreational development, shows (MrD2) Morley soil has a \_\_\_\_\_ limitation for playgrounds.  
a) severe                      b) moderate                      c) slight                      d) slightly moderate
5. Which of the following is not a common tree to (FoA, FoB, FpC2) Fox soil when reviewing woodland management and productivity tables?  
a) Northern red oak                      b) White oak                      c) Sugar maple                      d) Eastern cottonwood
6. Which of the following windbreak and environmental planting species would you plant on (Sa) Saranac soil to obtain a predicted 20-year average height of over 35 feet?  
a) silky dogwood                      b) Northern white cedar                      c) Eastern white pine                      d) Pin oak
7. What is the depth to bedrock in (Ln) Linwood soil in table 18?  
a) greater than 60'                      b) 40-60'                      c) 20-40'                      d) less than 20'
8. The Glynwood series of deep, moderately well drained soils is found on slopes of \_\_\_\_\_ percent.  
a) 0 to 2                      b) 2 to 12                      c) 12 to 18                      d) 18 to 25
9. Montgomery series consists of deep soils formed in fine textured lacustrine sediment with 0-2% slope and generally are on \_\_\_\_\_.  
a) flood plains                      b) till plains                      c) lake plains                      d) outwash plains
10. Westland soils are similar to \_\_\_\_\_ soils and commonly adjacent to Fox and Sleeth soils.  
a) Martinsville                      b) Colwood                      c) Fulton                      d) Glynwood
11. In water management, limitations for pond reservoir areas for (Mf) Milford soil are \_\_\_\_\_.  
a) slight                      b) moderate                      c) severe                      d) no data provided
12. (KaB) Kendallville soil, used as construction material as a source of roadfill, is rated \_\_\_\_\_.  
a) good                      b) fair                      c) poor                      d) was not rated
13. In Hardin County, which muck soil has the largest acreage?  
a) Carlisle                      b) Linwood                      c) McGuffey                      d) Roundhead
14. When reading a soil survey, what is the special symbol indicated by ..... on a map ?  
a) soil sample site                      b) short steep slope                      c) bedrock escarpment                      d) muck spot
15. The degree of limitation of (ShB) Shinrock soil for golf fairways is rated as \_\_\_\_\_.  
a) slight                      b) moderate                      c) slightly moderate                      d) severe

END OF EXAM

2008-09 OHIO URBAN SOILS KEY 10-11-08

WRITTEN TEST

1. B- 475 – pg iii
2. D- 12- pg 1
3. C- terrace- pg 4
4. A- flood plain- pg 6
5. D- vertical-horizontal- pg 1
6. D- 7"-pg 11
7. C- mottling- pg 30
8. D- alluvium- pg 29
9. D- 4 feet- pg 20
10. A- fragipan- pg 14
11. A- 50 feet- pg 17
12. C- swale- pg 31
13. B- evapotranspiration- pg 29
14. D- 6 - pg 21
15. B- subsidence- pg 31

SOIL SURVEY

1. C- 5A- pg 131
2. C-60.6- pg. 122
3. A-slight- pg 148
4. A- severe- pg 143
5. D- eastern cottonwood- pg 130
6. D- pin oak- pg 140
7. A- greater than 60- pg 172
8. B-2-12%- pg 85
9. C- lake plains- pg 94
10. B- Colwood- pg 104
11. A- slight- pg 160
12. A- good- pg 156
13. D- Roundhead- pg 124
14. B- short steep slope- pg 182
15. A- slight- pg 144

Pit 1	Pit 2	Pit 3	Pit 4
Part 1	Part 1	Part 1	Part 1
A-1	A-4	A-4	A-2
B-5	B-1	B-1	B-1
C-2	C-1	C-1	C-1
D-1	D-1	D-1	D-1
E-2	E-2	E-2	E-2
F-2	F-2	F-2	F-3
G-2	G-2	G-2	G-2
H-2	H-3	H-4	H-3
I-1	I-1	I-1	I-1
J-1	J-1	J-1	J-1
Part 2	Part 2	Part 2	Part 2
S	S	S	S
S	S	S	S
S	S	S	S

M	S	S	M
Part 3	Part 3	Part 3	Part 3
1-B	1-A-C-D	1-A-C-D	1-C-D
2-B	2-C	2-C	2-C
3-B-D	3-A-D-F	3-A-D-E	3-D-E
4-C	4-A-F	4-A-F-G	4-E-F



- 5) What soil condition(s) severely limit the use of the “Ko” (Kokomo silty clay loam) soil for a building site development?
- a. High clay content in the subsoil
  - b. Shrink-swell potential and wetness
  - c. Flooding and low soil strength
  - d. Wetness and ponding
- 6) What is the permeability of the “MIC2” (Miamian silt loam, 6 to 12 percent slopes, eroded) soil?
- a. Slow
  - b. Moderately slow
  - c. Moderate
  - d. Moderately rapid
- 7) What is the thickness of the root zone in the “CrA (Crosby silt loam, 0 to 2 percent slopes) soil?
- a. Mainly shallow
  - b. Mainly moderately deep
  - c. Mainly deep
  - d. Mainly very deep
- 8) What construction practices will reduce the possibility of wet basements in the “CrA” (Crosby silt loam, 0 to 2 percent slopes) soil?
- a. Seeding with grass or mulching with wheat straw
  - b. Footer drains and basement wall coatings
  - c. Artificial drainage and compaction of clayey soil around the foundation
  - d. Deep subsoiling and footer drains

Answers to the following questions are in the tables.

- 9) How is the “Ca” (Carlisle muck) soil rated as a source of topsoil?
- a. Good
  - b. Fair
  - c. Poor
  - d. Unsited
- 10) What soil condition(s) limit the use of the “EIA” (Eldean silt loam, 0 to 2 percent slopes) soil for shallow excavations?
- a. Cutbanks cave
  - b. Wetness
  - c. Too clayey and wetness
  - d. Ponding and cutbanks cave

- 11) What is the degree of limitation of using the “CrB” (Crosby silt loam, 2 to 6 percent slopes) soil for local roads and streets?
- a. Slight
  - b. Moderate
  - c. Severe
  - d. Very severe
- 12) What is the potential of frost action in the “Pa” (Patton silty clay loam) soil?
- a. Low
  - b. Moderate
  - c. High
  - d. Very high
- 13) What is the range in percent clay in the 27 to 60 inch depth of the “MIB” (Miamian silt loam, 2 to 6 percent slopes) soil?
- a. 35-48 percent
  - b. 16-31 percent
  - c. 27-35 percent
  - d. 11-22 percent
- 14) What is the range in predicted 20 year average height, in feet, of Norway spruce trees used for windbreaks and environmental plantings on the “KeC2” (Kendallville silt loam, 6 to 12 percent slopes, eroded) soil?
- a. <8 feet
  - b. 8-15 feet
  - c. 16-25 feet
  - d. 26-35 feet
- 15) What soil condition(s) limit the use of the “ThB” (Thackery Variant silt loam, 2 to 6 percent slopes) soil for pond reservoir areas?
- a. Seepage
  - b. Piping and seepage
  - c. Slope
  - d. Seepage and slope

Key

1-C

2-A

3-B

4-B

5-D

6-B

7-B

8-B

9-C

10-A

11-C

12-C

13-B

14-C

15-D