Name:

Soil: A Living System (Soils 201)

Midterm #3

December 2, 2010

Total Number of Points: 100

1 Single-Answer Multiple Choice

2 points each. Circle the one solution that answers each question or completes the sentence.

1. Which of the following is not a soil forming factor?

   (a) time
   (b) biota
   (c) space ♣
   (d) topography
   (e) climate

2. Organic matter accumulation is most pronounced in the _____.

   (a) O horizon ♣
   (b) C Horizon
   (c) R horizon
   (d) E horizon
   (e) B horizon

3. Granite is an example of a(n) _____.

   (a) sedimentary rock
   (b) igneous rock ♣
   (c) metamorphic rock
   (d) soil mineral

4. Limestone is an example of a(n) _____.

   (a) sedimentary rock ♣
   (b) igneous rock
   (c) metamorphic rock
   (d) soil mineral

5. A C-horizon is typified by which of the following?

   (a) large amounts of organic matter

   (b) accumulations of clays, iron and aluminum oxides

   (c) a mineral horizon beneath the solum, lacking pedogenic properties of A and B horizons ♣

6. Which subsoil master horizon contains accumulations of clays and salt?

   (a) B ♣

   (b) R

   (c) C

   (d) A

7. Under which type of vegetation do you expect to find a persistent O-horizon?

   (a) prairie

   (b) deciduous forest

   (c) coniferous forest ♣

   (d) cultivated soil

8. The parent material of the soils of the Palouse region has been deposited by

   (a) wind, and is called loess ♣

   (b) wind, and is called alluvium

   (c) water, and is called loess

   (d) water, and is called alluvium

   (e) glaciers, and is called till

9. Traveling east to west in the United States, a person would observe that

   (a) the content of organic matter in the soil decreases ♣

   (b) the content of organic matter stays constant

   (c) the content of organic matter in the soil increases

10. Intensive precipitation usually leads to

   (a) a high pH of the soil and a high organic matter content

   (b) a low pH of the soil and a high clay content ♣

   (c) a high pH of the soil and a low organic matter content

11. All other factors being equal, an increase in temperature causes an increased rate of

   (a) weathering

   (b) chemical reactions

   (c) clay formation

   (d) all of the above ♣

   (e) a and c

12. The US Soil Taxonomy relies on soil properties that can be observed or measured at a soil profile. There are two main parts of a soil profile that are the foundation of the soil taxonomy. These two are

    (a) the epipedon and diagnostic horizons ♣
    (b) the epipedon and the parent material
    (c) the epipedon and vegetation
    (d) the epipedon and the age of the soil
    (e) the epipedon and the soil color

13. The Bt-Horizon is a horizon where

    (a) clay minerals have been leached out
    (b) sesquioxides dominate the mineral fraction of the soil
    (c) clay minerals have been accumulated by either weathering processes or illuviation from other soil horizons ♣
    (d) organic material is mixed with mineralic material

14. Which soil order is dominated by montmorillonite?

    (a) Alfisols
    (b) Ultisols
    (c) Spodosols
    (d) Vertisols ♣
    (e) Histosols

15. Which soil order would you expect to be dominant in Iceland?

    (a) Andisol ♣
    (b) Ultisols
    (c) Vertisols
    (d) Oxisol

16. Which factors are relevant for the formation of a Spodosol?

    (a) parent material made of limestone
    (b) coniferous forest ♣
    (c) impermeable C-Horizon
    (d) high temperatures

17. An Oxisol is

    (a) as soil that contains a lot of oxides ♣
    (b) a soil that contains a Bt horizon
    (c) a young, undeveloped soil
    (d) a soil formed under deciduous forest

18. In which soil would you find a Bs horizon?

    (a) in an Entisol
    (b) in an Oxisol ♣
    (c) in an Mollisol
    (d) in an Gelisol