UNIVERSITY OF PRETORIA

Faculty of Natural and Agricultural Sciences
Department of Plant Production and Soil Science
GKD 350 (Soil Classification and Survey)

Optional Midterm exam No.: 3 **Marks: 20**
Examiner: Dr. M.E. Moshia (Dr. E) **Date: May 16, 2011**

INSTRUCTION: Circle the correct answer

1. A horizon wherein calcium carbonate has accumulated; it may occur in an A, B, or C horizon.
Calcic
Argillic
Cambic
Natric
None of the above

2. A subsurface horizon with more than 15% exchangeable sodium and a prismatic or columnar structure.
Calcic
Argillic
Cambic
Natric
None of the above

3. A horizon that is too light in colour, has too high a chroma, too little organic matter, or is too thin to be mollic or umbric.
Histic
Ochric
Albic
Cambic
None of the above

4. A surface horizon darkened due to the presence of organic matter and with a base saturation of less than 50%, thus cannot be classed as mollic.
Umbric
Histic
Anthropogenic
Ochric
None of the above

5. A dark-coloured base-desaturated surface layer rich in organic matter.
Umbric
Histic
Anthropogenic
Ochric
None of the above

6. A light coloured horizon from which clay and free iron oxides have been removed.
Histic
Ochric
Umbric
Albic
None of the above

7. A surface horizon or subsurface horizon occurring at shallow depth, consisting of organic soil material having more than 12% organic carbon.
Histic
Ochric
Umbric
Albic
None of the above

8. A well-structured, dark coloured surface layer with a high base saturation and a moderate to high organic matter content.
Mollic
Spodic
Oxic
Aridic
None of the above

9. Which of this soil orders has a Bw horizon?
Entisols
Inceptisols
Oxisols
Spodosols
None of the above

10. Which of this soil orders is highly weathered?
Aridisols
Alfisols
Oxisols
Inceptisols
None of the above

11. Highly leached, strongly acid, coarse-textured soils of the humid forests; aluminium and iron oxides and humus have moved into the B horizon.
Oxisols
Mollisol
Spodosols
Alfisols
None of the above

12. Soils of arid regions; insufficient water to produce enough organic matter for a thick O horizon; bases are not leached and accumulate in the A horizon because evaporation is greater than leaching.
Alfisols
Andisols
Aridisols
Spodosols
None of the above

13. Recent soils of humid regions that show beginning evidence of soil formation; clay and bases have not moved to any extent; B horizons may be red coloured and calcium carbonate may have leached.
Entisols
Inceptisols
Andisols
Ultisols
None of the above

14. A hutton soil form is made of the following soil horizons.
Orthic A/Red Structured B
Orthic A/Red Apedal B
Orthic A/Yellow Brown Apedal B
Orthic A/E/Primacutanic B
None of the above

15. Light coloured mineral horizon.
Orthic A
E horizon
Softplinthic B
Red Apedal B
None of the above

16. Which scientist(s) are better associated with factors of soil formation?
Brady N.C
Hans Jenny
Rattan Lal
Sir Isaac Newton
None of the above

17. The main difference between Red apedal B and Yellow Brown apedal B is….
Soil organic matter
Soil colour
Soil structure
Soil texture
All of the above

18. When classifying soils in South Africa, we use a….
Red book
Blue book
Brown book
Green book
All of the above

19. ….makes Vertic A horizon different from other topsoil horizons.
Strongly developed Structure and Slickensides
Very dark colours and slickensides
High organic Carbon and slickensides
High clay content and reddish colours
None of the above

20. When conducting land suitability assessment, which of the following is very important,
Subsoil clay content
Soil depth to stones and concretions
Change in slope and vegetation
Aerial photographs/Satellite images
All of the above