



2nd SEM : 2006/2007

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMME : DIPLOMA IN AGRICULTURE YEAR III AND
AGRICULTURAL EDUCATION YEAR III**

COURSE CODE: CP 304

TITLE OF PAPER: PEDOLOGY

TIME ALLOWED: TWO [2] HOURS

**INSTRUCTIONS: ANSWER ANY FOUR [4] QUESTIONS OF
YOUR CHOICE.**

**NOTE: THE PAPER CONTAINS THREE [3] PAGES INCLUDING THE
COVER PAGE.**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY
THE INVIGILATOR.**

QUESTION 1

(a) Define or give short descriptions of the following terms and phrases:

- | | | |
|-------|-------------|-----|
| (i) | Soil | [3] |
| (ii) | Horizon | [3] |
| (iii) | Illuviation | [3] |
| (iv) | Edaphology | [3] |
| (v) | Pedology | [3] |

(b) Briefly discuss any four [2] of the five soil forming factors.

[10]

[25]

QUESTION 2

Discuss the following pedogenic processes:

- | | | |
|-------|------------------|-----|
| (i) | Calcification | [5] |
| (ii) | Ferrallitization | [5] |
| (iii) | Alkalization | [5] |
| (iv) | Rubefaction | [5] |
| (v) | Salinization | [5] |

[25]

QUESTION 3

Briefly discuss the similarities and dissimilarities between the following pairs of Soil Orders:

- | | | |
|-------|--------------------------|-----|
| (i) | Alfisols and Ultisols | [5] |
| (ii) | Entisols and Inceptisols | [5] |
| (iii) | Vertisols and Aridisols | [5] |
| (iv) | Mollisols and Spodosols | [5] |
| (v) | Histisols and Oxisols | [5] |

[25]

QUESTION 4

- (a) List four [4] of the six categorical levels of the United States Comprehensive Soil Classification System and briefly indicate their nature of differentiating characteristics.

[20]

- (b) Briefly discuss the five [5] reasons why it is important to have a soil classification system, or explain why it is important to classify things. [5]

[25]

QUESTION 5

- (a) Discuss the contrasts and comparisons between the following processes:

- (i) Physical weathering and chemical weathering [5]
- (ii) Leaching and illuviation [5]

- (b) List and describe any three [3] diagnostic organic materials.

[15]

[25]