

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION: MAY 2006
B.Sc. II

TITLE OF PAPER : **APPLIED PHYSICAL GEOGRAPHY**

COURSE NUMBER : **GEP 227**

TIME ALLOWED : **THREE (3) HOURS**

INSTRUCTIONS : **ANSWER ANY FIVE QUESTION S
ILLUSTRATE YOUR ANSWERS WITH
APPROPRIATE DIAGRAM S**

MARKS ALLOCATED : **ALL QUESTION CARRY EQUAL MARKS**

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED
BY THE INVIGILATOR**

QUESTION 1

- (a) Define the term "soil horizon" and indicate how soil horizons are identified and named in a soil profile **[5]**
- (b) Using an appropriate diagram, illustrate the major soil horizons in a representative mineral soil profile and describe the properties of each horizon **[15]** **{20}**

QUESTION 2

- (a) What is geomorphology? **[5]**
- (b) Discuss the processes involved in the development of slopes/land forms in the environment **[15]** **{20}**

QUESTION 3

Discuss in detail the role of soil pH in soil science **[20]**

QUESTION 4.

- (a) Define the term "factor of soil formation " **[3]**
- (b) Discuss the factors of soil formation and comment on how each has influenced the development of soils in your country **[17]** **{20}**

QUESTION 5

- (a) Identify the major types of soil colloids and describe the ways in which they obtain negative charges **[5]**
- (b) Discuss the significance of clay minerals in soil science **[15]** **{20}**

QUESTION 6

(a) What is plate tectonics? **[5]**

(b) Describe the elements of plate tectonics and comment on their influence on the nature of the landscape **[15]** **{20}**

QUESTION 7

(a) Distinguish between “chemical” and “physical” weathering of rocks and minerals in the environment **[5]**

(b) Discuss the processes involved in the chemical weathering of rocks and minerals to form soil **[15]**

QUESTION 8

Discuss the role of soil microorganisms in soil science **[20]**