

**UNIVERSITY OF SWAZILAND**

**FINAL EXAMINATION PAPER**

**TITLE OF PAPER: APPLIED PHYSICAL GEOGRAPHY**

**COURSE CODE: GEP 227**

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

**INSTRUCTIONS: ANSWER QUESTION ONE IN SECTION A, WHICH IS A COMPULSORY QUESTION, AND ANY TWO (2) QUESTIONS IN SECTION B.**

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

**SECTION A (COMPULSORY)**

**QUESTION 1**

(a) Define or give short descriptions of the following terms: (Each question carries 2 marks)

- (i) Mechanical analysis
- (ii) Essential nutrient
- (iii) Isomorphous substitution
- (iv) Field capacity
- (v) Autotrophic bacteria

(b) What is a factor of soil formation? [5]

(c) Discuss the factors influencing soil formation and comment on how each has influenced the development of soils in Swaziland. [25]

{40}

**SECTION B**

**(ANSWER ANY TWO (2) QUESTIONS IN THIS SECTION)**

**QUESTION 2**

(a) Identify the major types of soil colloids and describe the various ways in which they obtain negative charges [10]

(b) Discuss the significance of clay minerals in soil science [20]

{30}

**QUESTION 3**

(a) Distinguish between “chemical” and “physical” weathering of rocks. [5]

(b) Discuss the processes involved in the chemical weathering of rocks and minerals to form soil [25]

{30}

**QUESTION 4**

(a) What is mass wasting in slope development? [5]

(b) Discuss the types of mass wasting indicating the rate of movement, materials involved and mechanism of movement [25]

**{30}**