

**UNIVERSITY OF SWAZILAND**  
**DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING**  
**FINAL EXAMINATION, MAY 2016**  
**BSc, B. Ed.**

**TITLE OF PAPER: APPLIED PHYSICAL GEOGRAPHY**

**COURSE NUMBER: GEP 227**

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

**INSTRUCTIONS:**

- 1. ANSWER THREE QUESTIONS**
- 2. QUESTION 1 IS COMPULSORY**
- 3. ILLUSTRATE YOUR ANSWERS WITH EXAMPLES AND CLEARLY DRAWN DIAGRAMS WHERE APPROPRIATE**

**ALLOCATION OF MARKS: QUESTION 1 (COMPULSORY) CARRIES 40 MARKS WHILE THE REST CARRY 30 MARKS EACH**

**GEP 227: APPLIED PHYSICAL GEOGRAPHY – MAY 2016**

**SECTION A: COMPULSORY**

**QUESTION 1**

- a) Define the following terms:
- i. Chelation (3 marks)
  - ii. Denudation (3 marks)
  - iii. Mineral (3 marks)
  - iv. Illuviation (3 marks)
  - v. Metasomatic metamorphism (3 marks)
- b) With the aid of a diagram discuss the rock cycle. (15 marks)
- c) Explain five physical properties of soils. (10 marks)
- (40 Marks)**

**SECTION B: ANSWER ANY TWO QUESTIONS**

**QUESTION 2**

- a) Discuss the various types of mass wasting and the factors that influence their occurrence. (20 marks)
- b) Outline the strategies recommended to minimize the hazards associated with landslides. (10 marks)
- (30 Marks)**

**QUESTION 3**

- a) What is a soil pedon? (4 marks)
- b) Define the term "soil horizon" and indicate how soil horizons are identified and named in a representative mineral soil. (7 marks)
- c) What is a transitional horizon and how is it named? (4 marks)
- d) Using an appropriate diagram, illustrate the major soil horizons in a representative mineral soil (5 marks)
- e) Describe the properties of each horizon. (10 marks)

**(30 Marks)**

**QUESTION 4**

- a) Discuss the factors influencing soil formation. (15 marks)
- b) Discuss the processes of soil formation (15 marks)
- (30 Marks)**

**QUESTION 5**

- a) Explain the physical properties of minerals (15 marks)
- b) Discuss the agents and types of metamorphism. (15 marks)
- (30 Marks)**