

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER MAY 2015

PROGRAMME: B.Sc. YEAR II AND B.ED. YEAR II

TITLE OF PAPER: APPLIED PHYSICAL GEOGRAPHY

COURSE CODE: GEP 227

TIME ALLOWED: THREE [3] HOURS

INSTRUCTIONS: ANSWER SECTION A WHICH IS COMPULSORY AND ANY OTHER TWO [2] QUESTIONS OF YOUR CHOICE IN SECTION B

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SECTION A

QUESTION 1 [COMPULSORY]

a) Explain the following processes and indicate their impact on the evolution of land forms.

- | | | | |
|------|---------------------------------|-----|-------------------|
| i) | Divergent boundaries | [5] | |
| ii) | Oceanic-continental convergence | [5] | |
| iii) | Seafloor spreading | [5] | |
| iv) | Oceanic-oceanic convergence | | [5] |
| | | | [20 marks] |

b) Briefly discuss the following mass wasting processes:

- | | | | |
|------|-----------|-----|-------------------|
| i) | Slump | [4] | |
| ii) | Flow | [4] | |
| iii) | Mudflow | [4] | |
| iv) | Landslide | [4] | |
| v) | Creep | [4] | |
| | | | [20 marks] |
| | | | [40 marks] |

SECTION B

Answer any two [2] questions of your choice in this section.

QUESTION 2

a) Briefly describe the appropriate environments that contribute to the following fluvial features:

- | | | | |
|------|---------------------|-----|-------------------|
| i) | Oxbow lake | [3] | |
| ii) | Oxbow swamp | [3] | |
| iii) | Meander scar | [3] | |
| iv) | Stream Terraces | [3] | |
| v) | Stream rejuvenation | [3] | |
| | | | [15 marks] |

b) Give a brief account of the following processes which contribute to the transformation of rocks:

- i) Chemical weathering
- ii) Physical weathering

[7.5]

[7.5]

[15 marks]

QUESTION 3

Discuss the chemical and physical effects of organic matter in soils and highlight their contributions to the quality of the environment.

[30 marks]

QUESTION 4

- a) Define the term “soil horizon” and describe the procedure for characterizing a profile of a mature mineral soil. [15 marks]
 - b) Describe the processes that sequentially produce the A, B and E soil horizons of a soil profile [15 marks]
- [30 marks]**

QUESTION 5

- a) Discuss the nature of the factors which influence the occurrence of land slides in the environment [20 marks]
 - b) Outline the strategies that can be recommended to minimize the hazards associated with land slides [10 marks]
- [30 marks]**