

UNIVERSITY OF FORT HARE

GEG 524 and GEG 524E

DEGREE EXAMINATIONS

November 2019

Time: 3 HOURS

Subject: Physical Geography: Geomorphology

Marks: 100

This paper consists of 2 pages including cover page

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Instructions

1. Answer any four (4) questions.
2. Start each answer on a new page.

Question 1

Describe the traditional model of weathering. Critically consider the recent suggestion that the term weathering is outdated and that the process of rock decay can be described through the concept of energy transfer. (25)

Question 2

Review the history of soil erosion and conservation in southern Africa. In your assessment describe the role of politics, the conflict between officials and farmers as well as the establishment of conservation interventions. (25)

Question 3

- (a) Describe the principles of soil conservation. (6)
 - (b) Explain how you would approach soil conservation in cultivated lands, pasture lands and forest areas. (9)
 - (c) Discuss how the principles of engineering geomorphology can be used to control soil erosion on construction sites. (10)
- [25]

Question 4

Fully describe the principal causes of land degradation in southern Africa. What are the key land use and land tenure questions that should be addressed? (25)

Question 5

In South Africa slope failure can be destructive depending on where it occurs. Describe the geomorphological characteristics of landslide prone areas, as well as the geomorphological indicators for potential landslides. (25)

Question 6

Review the typical mass movement processes. Further describe the factors determining the strength of slope material and the shear stress on slopes.

(25)