UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF GEOGRAPHY
MAIN EXAMINATION: JUNE 2014
COURSE & CODE: SOIL EROSION & LAND DEGRADATION, ENVS 315W

DURATION: 3 HOURS **TOTAL: 300 MARKS**

INTERNAL EXAMINER: MS S MUNIEN
EXTERNAL EXAMINER: PROF S GRAB

This paper consists of 2 (TWO) pages.
There are 3 (THREE) sections in this paper.
Section A is compulsory
Answer 2 (TWO) questions from section B and 2 (TWO) questions from section C.

SECTION A (compulsory)

1. You are a lecturer at the University of KwaZulu-Natal and have been asked to present a lecture on soil profiles. With the aid of a well labelled illustration of a soil profile, identify and describe the composition and key characteristics of horizons in mature soils. (50)

SECTION B (choose 2 [two] questions)

1. Mass wasting can contribute significantly to land degradation and soil erosion. Identify and describe the features associated with moderate mass wasting. (25)

2. Use illustrative examples to highlight the processes of sealing, crusting and compaction. Briefly describe the impacts associated with each of the above. (25)

3. Describe 5 (five) soil rehabilitation interventions and discuss its applicability in KwaZulu-Natal. (25)

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SECTION C (choose 2 [two] questions)

1.

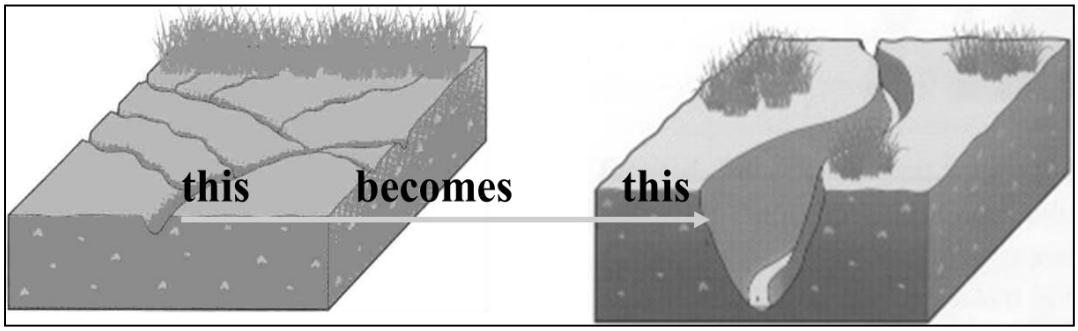

Figure 1: The development of rills into gullies

With reference to figure 1 above, explain the processes that result in the above features and in each case suggest possible remedial measures. (100)

2. A number of processes contribute to the degradation of soil. Provide a detailed discussion of five of these soil degradation processes and explain the treatments that may be applied to soils to alleviate resultant problems (100)

3. Global warming poses a serious threat to both natural and social environments. Discuss the probable erosional consequences of global warming in Africa and highlight the remedial measures for each. (100)