



FACULTY OF SCIENCE

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL MANAGEMENT & ENERGY STUDIES

MODULE GGR2A10
PEDOGRAPHY & BIOGEOGRAPHY

CAMPUS APK

EXAM SSA 2016

DATE: 2016.07.29

SESSION: 08:30 – 11:30

ASSESSOR(S)

Ms. M. Rabumbulu
Ms. A. Ngie

INTERNAL MODERATOR

DR. S. Tesfamichael

DURATION 3 HOURS

MARKS 100

NUMBER OF PAGES: 3 Pages

INSTRUCTIONS:

- 1. NB! Answer all questions as per instruction**
- 2. Answer Sections A & B in SEPARATE examination scripts**
- 3. This exam paper may not be removed from the exam venue**

SECTION A: PEDOGRAPHY (Ms. M. Rabumbulu)

Answer **BOTH** questions in this section but note the choice **within** each question. Use **diagrams** where appropriate.

1. Write explanatory notes, of about one page each, on any **Three** of the following:

- a) What lithology and structure in a sedimentary sequence can tell us about the depositional environment
- b) A “best case scenario” for the Universal Soil Loss Equation
- c) South Africa’s binomial soil classification system
- d) Soil peds
- e) The ocean and ice record for environmental change

[10x3]

2. Answer **ONE** of the following:

- a) Explain the links between soil water, soil and sediment textural properties, soil mechanics and Atterberg limits. Explain why these links are important in managing the physical (geomorphic) environment.
- b) Discuss, using appropriate examples, the role of geomorphology in planning, developing and managing the biophysical and/or the fluvial environment.
- c) Will South African farmers be able to feed the country’s population in the future? Motivate.

[20]

SUB-TOTAL **[50]**

SECTION B: BIOGEOGRAPHY (Ms. A. Ngie)

Answer ALL the questions in this Section.

1. (a) What is the difference between the niche and habitat of a species within an ecosystem? [4]

(b) What is the difference between biotic and abiotic factors?

[6]

2. Describe the hierarchies of the biosphere. Use examples to support your description.

[10]

3. What are the two main factors that influence the diversity of species at a global level? Using examples to illustrate your responses, describe the two factors identified.

[10]

4. Describe the FOUR specific drivers of biodiversity along latitudinal gradients.

[10]

5. (a) Define Geographic Information System/Science and Remote Sensing.

[4]

(b) Discuss the THREE central biogeographical ideas that require the use of Geographic Information System/Science and Remote Sensing.

[6]

SUB-TOTAL [50]

TOTAL: [100]
