UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF GEOGRAPHY
MAIN EXAMINATION: NOVEMBER 2014
ENVS319: GLOBAL ENVIRONMENTAL CHANGE

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

External Examiner: Prof. S Grab
Internal Examiner: Dr J Finch

NOTE: THIS PAPER CONSISTS OF TWO PAGES. PLEASE SEE THAT YOU HAVE THEM ALL.

INSTRUCTIONS:

1. **This paper consists of three sections**
2. **Answer each section in a separate answer book**
3. **On the cover of each answer book indicate the section answered (Section A, B or C)**

SECTION A (100 MARKS)

ANSWER ALL QUESTIONS

1. With the aid of a diagram, describe and explain the mutual climatic range approach to palaeoreconstruction. [25]

2. Define taphonomy and explain its relevance in palaeoenvironmental studies, using examples to illustrate your answer. [25]

3. With the aid of examples, describe and explain the atmospheric transparency hypothesis. [25]

4. Outline the principles, application and interpretation of oxygen isotopes in the field of environmental change. [25]

SECTION B (100 MARKS)

ANSWER ONE QUESTION

5. "*Despite being poorly understood, the African late Quaternary extinctions play an important role in the global extinction debate. The African losses are often characterized as less severe than extinctions elsewhere...This is true in the sense that Africa supports an exceptionally diverse large mammal community today.*" (Faith 2014: 106).

   With reference to the above excerpt from Faith (2014), critically discuss the Pleistocene Overkill Hypothesis.

   [100]

OR

6. "*Some six or so million years ago, primitive human precursors or hominids appear in the fossil record...The oldest remains have been found either in sediments from the Rift Valley of East Africa, or in cave deposits in South Africa. Since that time the human population has spread over virtually the entire land surface of the planet*" (Goudie 2006: 7).

   Describe the path of human evolution and the changing nature of human-environment interactions over time. [100]

SECTION C (100 MARKS)

COMPULSORY QUESTION

7. "*Fossil records are replete with examples of long-term biotic responses to past climate change*" (Willis *et al*., 2010: 583).

   Using of case studies, describe the nature of faunal and floral response to climate change. How might we expect species to respond to climate shifts and what insights may be gained for conservation under future climate regimes? [100]