UNIVERSITY OF JOHANNESBURG

FACULTY OF SCIENCE

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL MANAGEMENT & ENERGY STUDIES

MODULE	**ENM9X03** **ENVIRONMENTAL MANAGEMENT 1:** **THE BIOSPHERE AND ENVIRONMENTAL STUDIES**
CAMPUS	**APK**
EXAM	**MAY 2019**

DATE: 2019.05.22 **SESSION 8:00 – 14:00**

ASSESSOR(S) **Dr N. SINTHUMULE**
Mrs L. MODLEY
Prof. SG TESFAMICHAEL
Dr C. KELSO
Mrs T. SCHOEMAN
Dr K. LANGERMAN

EXTERNAL MODERATOR **Dr T.N. SUINYUY (UKZN)**

DURATION 6 HOURS **MARKS 185**

NUMBER OF PAGES: 3

INSTRUCTIONS:

1. There are six sections in this exam
2. Answer each section in a separate answer book
3. All sections are compulsory and close book
4. Number your answers clearly

SUPP. EXAM

Section I: Transfrontier Conservation (Dr N. SINTHUMULE)

Using Kruger National Park as a case study, **discuss** the historical and contemporary impacts of 'fortress' conservation approach on local communities. In your discussion, indicate why fortress conservation is increasingly criticized, particularly by social scientist.

SUB-TOTAL: 30

Section II: Water Resource Management (Mrs Lee-Ann)

Ecological infrastructure refers to naturally functioning ecosystems that deliver valuable services to people, such as water and climate regulation, soil formation and disaster risk reduction. It is the nature-based equivalent of built or hard infrastructure, and can be just as important for providing services and underpinning socio-economic development. Ecological infrastructure does this by providing cost effective, long-term solutions to service delivery that can supplement, and sometimes even substitute built infrastructure solutions. Ecological infrastructure includes healthy mountain catchments, rivers, wetlands, coastal dunes, and nodes and corridors of natural habitat, which together form a network of interconnected structural elements in the landscape. Investing in ecological infrastructure has been an emerging area of interest and work within South Africa over the last few years.

How would you develop an ecological infrastructure plan for one of the most polluted water systems in South Africa? What would be the benefits of such a plan?

SUB-TOTAL: 25

Section III: Waste Management (Mrs T. Schoeman)

The burden and management of mining waste is especially important due to the high volume of material disposed and the impacts thereof. In your opinion, is enough done in South Africa to address the issues surrounding mining waste? Motivate your opinion.

SUB-TOTAL: 20

Section IV: Remote Sensing (Prof. S. Tesfamichael)

Discuss how remote sensing can be used to monitor environmental variables, using three relevant examples.

SUB-TOTAL: 10

Section V: Climate Change (Dr C. Kelso)

Provide background to the policy that South Africa has put in place so far to address both climate change mitigation and adaptation. Conclude with some critical insights as to the importance of prioritising climate change in comparison to other goals in South Africa.

SUB-TOTAL: 50

Section VI: Air Quality (Dr K. Langerman)

Critically evaluate why air quality in urban areas is of such concern in South Africa. Propose and motivate *three* air quality management tools or interventions that could be employed to manage the situation and improve air quality in urban areas.

SUB-TOTAL: 50

END
