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. S.G. TESFAMICHAEL
Dr C. KELSO
Mrs T. SCHOEMAN
Dr K. LANGERMAN
Dr K. YESSOUFOU

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

DURATION 6 HOURS **MARKS 250**

NUMBER OF PAGES: 3

INSTRUCTIONS:

1. There are seven 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

MAIN PAPER

Section I: Transfrontier Conservation (Dr N. SINTHUMULE)

Over the past three decades, conservation has gone transboundary. The sudden rise of the concept of transfrontier conservation areas is due to several reasons and promises offered by conservationists. Of relevance is the promise that the creation of transfrontier conservation areas would take the interests and livelihoods of local residents seriously.

Using southern Africa as a case study, evaluate the extent to which the establishment of transfrontier conservation areas have benefited and enhanced the lives and livelihoods of local communities.

SUB-TOTAL: 30

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

There are five primary water quality challenges in South Africa, which all have multi-sectoral characteristics and speak to the overlapping or adjacent mandates of a range of government institutions. For that reason, it is believed that the requisite future management responses to these challenges will need to go well beyond the statutory and regulatory mandate, measures, controls, instruments and processes of DWS alone.

Choose one of these water quality challenges and discuss in depth by focusing on the primary drivers, root causes, corporate governance and partnership considerations. You should incorporate a practical example into your discussion.

SUB-TOTAL: 25

Section III: Waste Management (Mrs T. Schoeman)

"The last three decades have seen the steady rise of a discourse of ‘good governance’ in African cities, ideologically deployed in both the rhetoric and practices of democratization, privatization, decentralization and liberalization" (Myers 2011:104). Unfavourable operating environments for solid waste management, nevertheless, remain a reality in Africa (Mbuligwe 2012).

Do you agree with the above statement? Motivate your answer.

SUB-TOTAL: 20

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

1. Describe the characteristics of remotely-sensed data [10].

2. Discuss the role of remote sensing in the assessment of the following environmental phenomena: [3×5=15]

- Urban land use / land cover dynamics
- Forest degradation
- Health of aquatic ecosystems

SUB-TOTAL: 25

Section V: Climate Change (Dr C. Kelso)

Give a detailed overview of South Africa's historical responsibility for climate change through Green House Gas (GHG) emissions, the mitigation commitments made by South Africa for the reduction of GHG emissions, as well as a brief overview as to how this is intended to be achieved.

SUB-TOTAL: 50

Section VI: Air Quality (Dr K. Langerman)

Critically evaluate the reasons why the industrialised Highveld (Mpumalanga Highveld and Vaal) experience poor air quality. Propose and motivate *three* air quality management tools or interventions that could be employed to manage the situation and improve air quality in the region.

SUB-TOTAL: 50

Section VII: Biodiversity (Dr K. Yessoufou)

Explain why conserving biodiversity should be an urgent priority for all and discuss whether South Africa is doing enough to prevent effectively the loss of its unique biodiversity.

SUB-TOTAL: 50

END
