



## **FACULTY OF SCIENCE**

### **DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL MANAGEMENT & ENERGY STUDIES**

#### **MODULE ENM2A10 ENVIRONMENTAL MANAGEMENT**

**CAMPUS    APK**

**EXAM        2019**

**DATE    31 MAY 2019**

**SESSION    8:30**

**ASSESSOR(S)            DR KY YESSOUFOU  
                                 MRS L.S MODLEY**

**EXTERNAL MODERATOR**

**DURATION   3 HOURS**

**MARKS    100**

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**NUMBER OF PAGES: 3 PAGES**

#### **INSTRUCTIONS:**

- 1.**    Answer each section in a separate answer book
- 2.**    Answer 4 questions, 2 questions from each section. Note: there are choices in both Sections 1 and 2
- 3.**    Number your answers carefully and use the numbers that are used in the question paper.

## SECTION 1: MRS L.S. MODLEY

PLEASE ANSWER ALL THREE QUESTIONS:

### QUESTION 1.1. CLIMATE CHANGE

*Climate change is no longer some far off problem, it is happening here; it's happening now. - Barack Obama*

Provide a brief background on Climate Change and give one natural disaster which was a direct consequence of climate change in South Africa. In your answer you should include the impacts that this particular natural disaster had.

(15)

### QUESTION 1.2 NON-RENEWABLE RESOURCES

You have been employed as an Environmental Consultant at one of South Africa's new mines. The developer would like to know how to distinguish between open cast and open pit mining. In addition to this; they would also require a brief explanation on how to minimize and manage the impacts that mining will have on the environment.

(15)

### QUESTION 1.3 WATER RESOURCES

*Anyone who can solve the problems of water, will be worthy of two noble prizes; one for peace and one for science. – J.F. Kennedy*

In your own educated opinion what are the major problems concerning water resources in South Africa. If you could learn any lessons from our neighbouring countries, which tools would you suggest to eradicate some of these problems.

(20)

[50]

## SECTION 1: Dr K. YESSOUFOU

- 1- In their paper entitled "An approach to sustainable development: the case of Cuba" that we have discussed in class, Cabello et al. (2012: *Environ Dev Sustain* 14, 573–591) presented the Cuba's approach to sustainable development in the face of economic embargo. In this paper, we can read the following: "More critical to Cuba's sustainability status are the choices it has made in the face of the US embargo. The embargo created a closed economic system in which US trade and tourism were restricted and

income to the local economy was bound to fall. The challenge this presented, together with the need to wean itself from cheap oil after the collapse of the Soviet Union in 1991, threatened wholesale economic disruption and political instability. The government of Cuba was forced by its extreme situation to confront the reality of limited resources. It chose the less travelled path of sustainable development for its people. Cuba transformed itself into a more self-reliant, less energy-intensive society without abandoning its longstanding commitment to strong health and educational programs". Cabello et al. (2012) further referred to Cuba as "the only country in the world that meets the conditions of sustainability according to the Worldwide Fund for Nature (WWF)". **[25]**

- a. Critically analyse the Cuban model of sustainable development, and tell what environmentalists in South Africa can learn from Cuba's road to sustainability.
  - b. In the same paper, they also referred very briefly to South Africa's response to economic embargo as follows: "South Africa made, between 1980 and 1991, intensive use of coal to generate electricity with important environmental consequences". What are those environmental consequences?
- 2- The City of Johannesburg is concerned with the rate at which waste is generated in the City and is actively looking for more sites for landfilling as a waste management approach. You have been approached to provide your expert opinion about landfilling and waste management in general in Johannesburg. Tell us about the advice you will provide. **[25]**

**[50]**

**TOTAL: 100 MARKS**