



FACULTY OF SCIENCE

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

**MODULE ENM2A10
ENVIRONMENTAL MANAGEMENT**

CAMPUS APK

EXAM 2019

DATE JULY 2019

SESSION ?

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

EXTERNAL MODERATOR

DURATION 3 HOURS

MARKS 100

NUMBER OF PAGES: 3 PAGES

INSTRUCTIONS:

1. Answer each section in a separate answer book
2. Answer 4all the questions from each section.
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

Cyclone Idai has triggered a "massive disaster" in southern Africa affecting hundreds of thousands if not millions of people, the UN has said. The region has been hit by widespread flooding and devastation affecting Mozambique, Zimbabwe and Malawi. Mozambique's President Filipe Nyusi called it "a humanitarian disaster of great proportion".

Provide a brief background on Climate change and how the natural disaster described above was a direct consequence of climate change in Africa.

(15)

QUESTION 1.2 Energy efficiency

Adoption of energy efficiency by small to micro manufacturing firms of Johannesburg, South Africa
Njabulo Kambule

The Gauteng province contributes about 36% to the country's GDP – of which 50% of this is derived from the SMME sector. Johannesburg, the main city of Gauteng, is the leading attractant of SMMEs, with close to 70% of the country's SMMEs having their head-quarters located there. Although there it remains unclear as to how many manufacturing companies can be found in the city, their contribution nationally is un-debatable. Furthermore, nearly 90% of the manufacturing sector in the country is comprised of SMMEs and approximately 10% of these M-SMMEs generate an annual turnover of about R214 million. Medium sized firms nationally contribute approximately 13.5% and small firms about 5.5% to the country's total manufacturing activity (SEDA, 2012). This sector is therefore a linchpin of economic development and assists the achievement of 2030 sustainable development goals (Marks and Hidden, 2017).

According to Kambule (2015) SMMEs contribute significantly to the countries economy. What are the key drivers for energy efficiency adoption in these firms?

(15)

QUESTION 1.3 Food security and water resources

It's clear that agriculture, done right, is the best means the world has today to simultaneously tackle food security, poverty and environmental degradation.
Irene Rosenfeld

What are the environmental impacts of farming on generally on the environment and specifically on our water resources?

(20)

SECTION 1: DR. K.Y. YESSOUFOU

Explain the difference between general waste and hazardous waste (10)

Graphically represent the waste management hierarchy (5)

As an expert in waste management, the City of Johannesburg contacted you for advice on:

- 1) How to reduce considerably waste production in the City, and
- 2) How to move waste up the management hierarchy away from landfill.
- 3) In a short essay (1 page maximum), share your major recommendations and justify each of them. (20)
- 4) The figure 1 below indicates two possible options (1 and 2) for waste management.

a) Which option is most dominant in South Africa? (5)

b) What is your take about it? Explain in one paragraph (200 words maximum). (10)

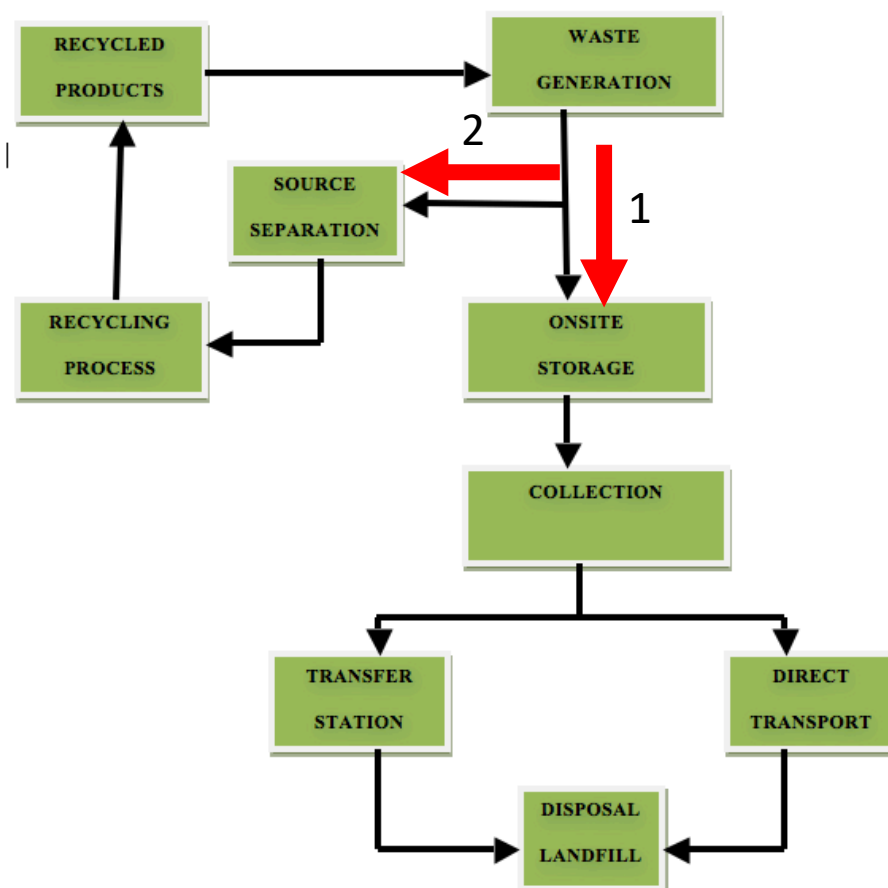


Fig. 1 Waste management cycle

TOTAL: 100 marks