

**TECHNICAL UNIVERSITY OF MOMBASA**

**FACULTY OF APPLIED AND HEALTH SCIENCES**

**DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DIPLOMA IN COMMUNITY  
HEALTH AND HIV MANAGEMENT.**

**DCHM 14M/YEAR3/ SEMESTER2**

**AES 2210: MATERIAL CONSUMPTION AND WASTE MANAGEMENT**

**SEMESTER EXAMINATION**

**SERIES: APRIL/MAY 2016**

**TIME: 2 HOURS**

*Instructions to Candidates*

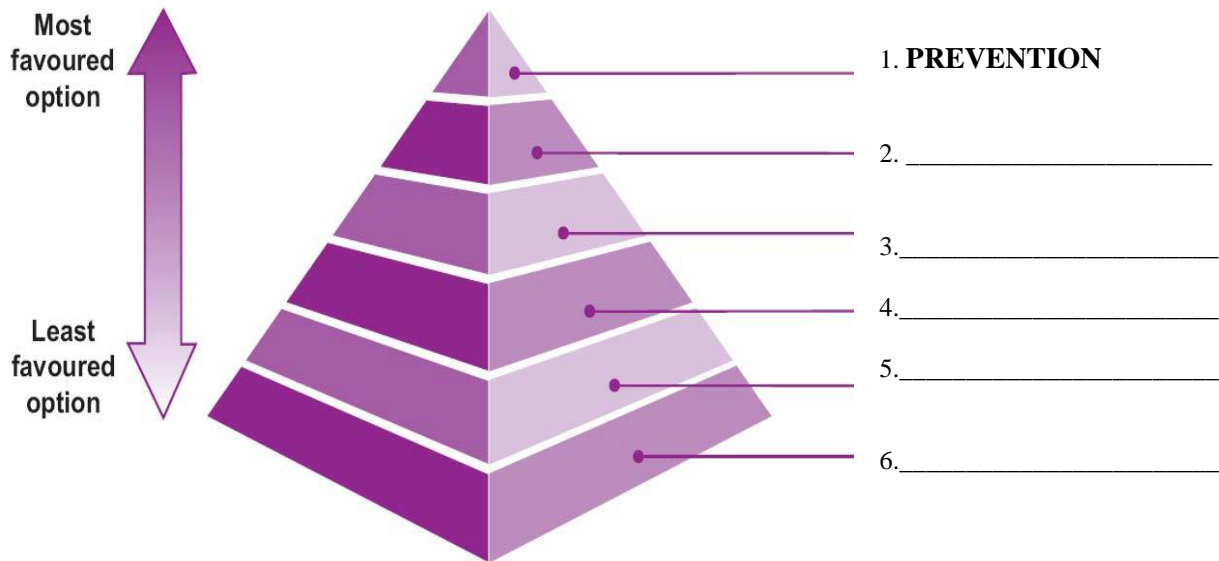
This paper consists of **FIVE (5)** questions

Answer question ONE (COMPULSORY) and any other TWO questions.

*This paper consists of four printed pages.*

**Question 1. (30 Marks)**

- a) Define waste management. (2 Marks)
- b) The best methods to deal with waste are centred on a broadly accepted “hierarchy of waste management” (arrangement in order of rank). Please insert the options for dealing with waste **in order of priority** in the boxes below. (5 Marks)



- c) Differentiate between combustible wastes and non-combustible wastes. (3 Marks)
- d) Differentiate between compostable wastes and non-compostable wastes. (3 Marks)
- e) Briefly describe the twin objectives of Integrated Waste Management (IWM). (3 Marks)
- f) Which of the following statements is *true or false*? In each case, say why it is correct or incorrect. (8 Marks)
  - A. Recycling is the best approach to solid waste management.
  - B. Composting is an aerobic decomposition process for converting organic solid waste into useful compost.
  - C. Reusing plastic water bottles is an example of waste recovery.

**D.** Controlled tipping is so called because only a limited quantity of waste can be tipped at any one time.

g).What is an environmental health hazard? (2 Marks)

h).What are some of the advantage and disadvantage of this solid treatment technique? (4 Marks)

i. Incineration

**Question 2 (15 Marks)**

Waste Management (WM) is a major public health and environmental concern in the urban and rural areas of many developing countries. The situation in Africa, particularly in the large urban towns is severe. The public sectors in many countries are unable to deliver services effectively, regulation of the private sectors is limited and illegal dumping of domestic and industrial waste is a common practice. Local authorities charged with the responsibility of providing municipal services have found it increasingly challenging to play this role.

With this knowledge in mind:

a). Discuss the functional elements of waste management. (12 Marks)

i. Which of these functional elements of waste management are relevant to rural settings? (2 Marks)

ii. Explain why these are relevant but the others are not. (1 Marks)

**Question 3 (15 Marks)**

You have been made responsible for reviewing Technical University of Mombasa (TUM)waste production and disposal.

a) Discuss the environmental impacts associated with waste disposal.(8 marks)

b) Explain how you would go about identifying sources of waste in TUM. (5 marks)

- c) What information would you need to record in order to describe effectively the different types of waste you identify? (2 marks)

**Question 4** (15 Marks)

- a) What is composting? (1 Marks)
- b) Where can you put a compost pile? (2 Marks)
- c) The selection of solid waste disposal sites using GIS and remote sensing requires many factors that should be integrated into one system for proper analysis. Discuss the various factors that should be put into account during selection criteria. (12 Marks)

**Question 5** (15 Marks)

Waste management (WM) remains a major public health and environmental concern in Kenya. Outline the various measures put in place to regulate waste production in Kenya. (15 Marks)