



**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

PROGRAMME: BSC LWM 4 AND BSC AG ED 4

COURSE CODE: LUM 405

TITLE OF PAPER: SANITATION AND WASTE MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO
OTHER QUESTIONS.

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GRANTED BY THE CHIEF INVIGILATOR**

SECTION A. COMPULSORY QUESTION

Question One

a. Discuss the factors considered when designing a waste management system in relation to the following;

- i. The size of waste /5
- ii. Site of waste disposal /5
- iii. Public awareness /10 marks **20 marks**

b. Describe the health and environmental risks associated with hazardous waste.

10 marks

c. Describe any two recommended ways of disposing hazardous waste

10 marks

SECTION B. ANSWER ANY TWO QUESTIONS

Question Two

a. Describe three methods of resource recovery and discuss their importance in natural resources conservation. **15 marks**

b. Describe how you would manage the following types of waste to accelerate their decomposition if included in a compost pile:

- i. Grass clippings
- ii. Hay
- iii. Manure **15 marks**

Question Three

a. Describe the design of a landfill, mentioning the conditions considered and materials that should be used to prevent contamination of land resources.

15 marks

- b. Discuss three environmental problems associated with landfills management.

15 marks

Question Four

- a. Farm waste is associated with a several health and environmental problems. Describe any three of these problems.

15 marks

- b. Describe how animal waste treated and disposed when using the containment and land application method?

10 marks

- c. List five ways by which pathogens may be transmitted from farm waste to infect livestock or human beings.

5 marks