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**UNIVERSITY OF SWAZILAND  
EXAMINATION PAPER**

**PROGRAMME:** BSC ABE 4  
BSC AS 4  
BSC FSNT 4

**COURSE CODE:** ABE 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. Water pollution is one of the common waste management related problems experienced in urban areas of developing countries. Discuss the likely causes of this problem. **10 marks**
  
- b. What is a landfill and what is it important for? **10 marks**
  
- c. Describe how leachate from a landfill maybe treated to prevent pollution of water and other land resources. **10 marks**
  
- d. Describe two health problems that are related to poor management of clinical waste. **10 marks**

**SECTION B. ANSWER ANY TWO QUESTIONS**

**Question Two**

- a. Describe how you would dispose waste material from a demolished building. **10 marks**
  
- b. Describe how a private septic tank works to treat sewer waste and where this method of waste treatment is ideal for use. **12 marks**
  
- c. What is composting and why is it important in waste management? **8 marks**

**Question Three**

a. Describe the recommended ways of disposing the following types of waste (describe the processes):

- |      |                   |     |
|------|-------------------|-----|
| i.   | used tyres        | /5  |
| ii.  | demolition debris | /10 |
| iii. | used oil          | /5  |
| iv.  | organic waste     | /10 |

**30 marks****Question Four**

a. Describe the stages involved in waste management hierarchy.

**10 marks**

b. Explain the meaning of the following terms as used in sanitation and waste anagement;

- |      |                       |    |
|------|-----------------------|----|
| i.   | water-washed diseases | /5 |
| ii.  | special waste         | /5 |
| iii. | solid waste           | /5 |
| iv.  | sanitation            | /5 |

**20 marks**