



**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**PROGRAMME: BSC IN ANIMAL SCIENCE AND BSC IN LAND  
AND WATER MANAGEMENT 4**

**COURSE CODE: LUM 405 (NEW PROGRAMME)**

**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**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN  
GRANTED BY THE CHIEF INVIGILATOR**

**QUESTION 1 (COMPULSORY QUESTION)**

- (a) Discuss the long-term and short-term storage methods of livestock waste, highlighting advantages and disadvantages for each method. (25 marks)
- (b) Discuss how interventions to promote personal and domestic hygiene can be effective in reducing diseases (15 marks)

**QUESTION 2**

Discuss the most frequent diseases related to poor water supply and sanitation; highlighting how such problems could be overcome as well as the end results of the process. (30 marks)

**QUESTION 3**

- (a) Discuss the role of behaviour in improving sanitation and health. (15 marks)
- (b) Discuss the problems associated with “special wastes” giving examples of special waste. (15 marks)

**QUESTION 4**

Discuss five factors to be considered when designing a solid waste system. (30 marks)



**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**PROGRAMME:** BSC LWM 4 AND BSC AG ED 4

**COURSE CODE:** LUM 404 M (NEW)

**TITLE OF PAPER:** NATURAL RESOURCES MANAGEMENT

**TIME ALLOWED:** TWO (2) HOURS

**SPECIAL MATERIAL REQUIRED:** NONE

**INSTRUCTIONS:** ANSWER QUESTION ONE AND ANY TWO  
OTHER QUESTIONS.

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN  
GRANTED BY THE CHIEF INVIGILATOR**

**SECTION A. COMPULSORY QUESTION**

**Question One**

Using urbanization, climate change, land degradation and water resources pollution as examples, describe how population growth has influenced natural resource use and management.

40 marks

**SECTION B. ANSWER ANY TWO QUESTIONS**

**Question Two**

- a. Using examples, explain the importance of environmental law as a tool for environmental management. 15 marks
- b. Differentiate between renewable and non-renewable resources and suggest how they may be harvested in a sustainable manner. 15 marks

**Question Three**

- a. Explain the meaning of the following terms as used in resources management;
  - i. Sustainable development
  - ii. Social justice
  - iii. Integrated environment management15 marks
- b. Give a brief description of how global climate change affects agricultural production in your country? 15 marks

**Question Four**

- a. Explain how the following components of an environmental impact assessment (EIA) are useful in natural resources management.

- i. Scoping
- ii. Public hearing
- iii. Comprehensive Mitigation Plan

15 marks

- b. An FAO survey report of 2001 indicated that both livestock and crop production on Swazi Nation Land (SNL) have been declining since 1990s. The decline in land productivity may have contributed to the increasing poverty levels. Discuss the land management issues on SNL that maybe contributing to these problems.

15 marks .