



**UNIVERSITY OF SWAZILAND  
FACULTY OF AGRICULTURE**

**DEPARTMENT: LAND USE AND MECHANIZATION**

**LAND AND WATER MANAGEMENT OPTION  
Bsc Agriculture Year 5**

**COURSE CODE: LUM 503 (MAIN)**

**TITLE OF PAPER: WATERSHED MANAGEMENT**

**TIME ALLOWED: Two (2) hours**

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

**THIS PAPER MAY NOT BE OPENED UNTIL THE CHIEF INVIGILATOR HAS  
GRANTED PERMISSION.**

**SECTION A. COMPULSORY QUESTION**

**QUESTION 1**

- a. Understanding the concept of Environmental Impact Assessment (EIA) and its aspirations, discuss its importance to environmental management. 20 marks
- b. Discuss how ecological changes as induced by political and socio-economic factors may affect the health of a watershed. 20 marks

**SECTION B. ANSWER ANY TWO QUESTIONS**

**QUESTION 2**

- a. Discuss the main causes of land degradation on rangelands in Swaziland citing the related impacts on watersheds. 30 marks

**QUESTION 3**

- a. Research has shown that in Swaziland soil erosion is more severe on rangelands compared to arable land (Manyatsi, 1999). Discuss the reasons why? 10 marks
- b. Briefly explain the following concepts;
- i. Through fall
  - ii. Sustainable development
  - iii. Biosphere
  - iv. Ecological imbalance 20 marks

**QUESTION 4**

- a. Describe how the floor of a forested watershed could affect water yield. 15 marks
- b. Describe three properties of alien plants that may result in poor yield of a watershed. 15 marks