



**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

PROGRAMME: BSC ABE 4
BSC AGRON 4
BSC AG ED 4

COURSE CODE: ABE407/ABE 404

TITLE OF PAPER: NATURAL RESOURCES MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO OTHER QUESTIONS.

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BY THE CHIEF INVIGILATOR**

SECTION A. COMPULSORY QUESTION**Question One**

- i. Using examples, explain the difference between competing and symbiotic interaction among living organisms in an ecosystem. 10 marks
- ii. Explain what is biotic potential and environmental resistance and their influence on population growth and decline of living organisms. Use a diagram to illustrate. 10 marks
- iii. Discuss the economic and environmental impacts of sediment pollution. 10 marks
- iv. Explain why RS&GIS are an important tool for managing natural resources and give at least one example where the use of these tools is applicable. 10 marks

40 marks**SECTION B. ANSWER ANY TWO QUESTIONS****Question Two**

- i. Discuss any three methods of water resources conservation that could be used at farm or country level to promote responsible use of the resource. 20 marks
- ii. Explain the meaning of the following terms as used to characterize population dynamics.
 - a. Population Density /3
 - b. Population Dispersion /3
 - c. Age Structure /4

10 marks

30 marks**Question Three**

- i. Using water and energy as examples, discuss the effectiveness of recycling and the use of renewable resources to enhance the sustainability of natural resources. 20 marks

- ii. Explain using examples, the difference between density-independent and density-dependant factors affecting living organisms' population growth and decline within ecosystems.

10 marks

30 marks

Question Four

- i. Explain, citing at least two environmental issues, why global human population growth is one of the biggest concerns in natural resources management?

15 marks

- ii. Discuss at least two reasons why enforcement of environmental law has not been effective in least developed countries.

15 marks

30 marks