

**UNIVERSITY OF SWAZILAND**  
**DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING**  
**SUPPLEMENTARY EXAMINATION, JULY 2012**  
**B.A., BASS, B. Ed. (FT/PT)**

**TITLE OF PAPER:            BIOGEOGRAPHY**

**COURSE NUMBER:        GEP 312**

**TIME ALLOWED:         THREE (3) HOURS**

**INSTRUCTIONS:         1. ANSWER THREE QUESTIONS**  
**2. QUESTION 1 IS COMPULSORY**  
**3. ILLUSTRATE YOUR ANSWERS WITH**  
**EXAMPLES AND CLEARLY DRAWN DIAGRAMS**  
**WHERE APPROPRIATE**

**ALLOCATION OF MARKS:    QUESTION 1 (COMPULSORY) CARRIES**  
**40 MARKS WHILE THE REST CARRY 30**  
**MARKS EACH**

**THIS PAPER SHOULD NOT BE OPENED UNTIL PERMISSION IS GRANTED BY**  
**THE INVIGILATOR**

**GEP 312: BIOGEOGRAPHY – JULY 2012**

**SECTION A: COMPULSORY**

**QUESTION 1**

- a) Outline the principles behind the Theory of Island Biogeography. (10 marks)
- b) Explain the applicability and relevance of the Theory of Island Biogeography in land use planning and environmental management. (12 marks)
- c) Explain the limitations of the theory of Island Biogeography. (18 marks)
- (40 Marks)**

**SECTION B: ANSWER ANY TWO QUESTIONS**

**QUESTION 2**

Using examples describe how energy flows in ecosystems. (30 Marks)

**QUESTION 3**

Explain how water and topography affect ecosystem characteristics and development. (30 Marks)

**QUESTION 4**

Using the carbon cycle as an example, discuss the effects of anthropogenic activities on biogeochemical cycling of nutrients in ecosystems. (30 Marks)

**QUESTION 5**

- a) Identify and explain four types of conservation. (16 marks)
- b) Suggest and justify ways of eradicating invasive plant species that can be used in Swaziland. (14 marks)
- (30 Marks)**