

UNIVERSITY OF SWAZILAND
DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING
FINAL EXAMINATION, DECEMBER 2011
B. Sc., B.Ed

TITLE OF PAPER: AGRICULTURAL SYSTEMS

COURSE NUMBER: GEP 326

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS:

- 1. ANSWER FOUR (4) QUESTIONS**
- 2. CHOOSE TWO (2) FROM EACH SECTION**
- 3. ILLUSTRATE YOUR ANSWERS WITH
EXAMPLES AND CLEARLY DRAWN DIAGRAMS
WHERE APPROPRIATE**

**ALLOCATION OF MARKS: EACH QUESTION CARRIES
25 MARKS**

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

GEP 326 – AGRICULTURAL SYSTEMS – DECEMBER 2011

SECTION A: ANSWER ANY TWO (2) QUESTIONS

QUESTION 1

Using examples and diagrams, discuss the applicability of von Thunen's model of agricultural location in Swaziland. **(25 marks)**

QUESTION 2

Discuss how value and perishability of agricultural produce influence modern global trade. **(25 marks)**

QUESTION 3

- a) Describe the following terms: increasing, diminishing and negative returns. **(15 marks)**
- b) 'Based on profit maximizing models, farmers are assumed to change their products as relative prices change'. Comment on this statement. **(10 marks)**
(25 marks)

SECTION B: ANSWER ANY TWO (2) QUESTIONS

QUESTION 4

With reference to climatic and soil conditions of the Lowveld physiographic region of Swaziland, explain why it is ideal for cotton or sugar cane production. **(25 marks)**

QUESTION 5

Discuss the importance of the frequency of rainfall occurrence in hydrologic designs. **(25 marks)**

QUESTION 6

Using examples explain the following terms:

- a) Soil permeability **(5 marks)**
b) Infiltration **(5 marks)**
c) Soil texture **(5 marks)**
d) Soil structure **(5 marks)**
e) Field topology **(5 marks)**
(25 marks)