



UNIVERSITY OF SWAZILAND

FINAL EXAMINATION

PROGRAMMES: BACHELOR OF SCIENCE IN AGRONOMY YEAR FOUR

COURSE CODE: CP 405

TITLE OF PAPER: CEREAL AND GRAIN LEGUME CROP PRODUCTION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS

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

QUESTION 1

- a) Explain why maize is not a recommended crop for the Lowveld of Swaziland. (5 marks)
- b) Which cereal crop would you recommend for planting in the typical Lowveld of Swaziland? Explain the agronomic practices involved in the production of this crop. (15 marks)
- c) Name two diseases of this crop. (2 marks)
- d) How is each of these diseases controlled? (2 marks)
- e) Name one industrial use of this crop. (1 mark)
- [25 Marks]**

QUESTION 2

Write an essay on the economic impact of conservation agriculture on maize production in Swaziland. **[25 Marks]**

QUESTION 3

- a) With the aid of a labeled diagram, describe the process of root nodule formation in grain legumes. (10 marks)
- a) State how and under which conditions are legume seeds inoculated with Rhizobia. (15 marks)
- [25 Marks]**

QUESTION 4

Discuss the major morphological characteristics of grain legumes and indicate the nature of the relationship of each to plant population and grain yield. **[25 Marks]**

QUESTION 5

Under the following headings, discuss the agronomic aspects of sorghum [*Sorghum bicolor* (L.) Moench] production in Southern Africa.

- a) Tillage. (5 marks)
 - b) Time of planting. (5 marks)
 - c) Plant population on yield. (5 marks)
 - d) Fertilizer response, water requirement and management. (5 marks)
 - e) Crop sanitation – weed, pest and disease control. (5 marks)
- [25 Marks]**