



UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER

**PROGRAMME: BACHELOR OF SCIENCE IN AGRICULTURAL ECONOMICS
AND AGRIBUSINESS YEAR TWO**

BACHELOR OF SCIENCE IN ANIMAL SCIENCE YEAR TWO

**BACHELOR OF SCIENCE IN ANIMAL SCIENCE YEAR TWO
(DAIRY OPTION)**

COURSE CODE: CPR 211

TITLE OF PAPER: PRINCIPLES OF CROP PRODUCTION

TIME ALLOWED: TWO (2) HOURS

**INSTRUCTIONS: ANSWER QUESTION ONE, WHICH IS A COMPULSORY
QUESTION AND ANY OTHER THREE (3) QUESTIONS**

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

QUESTION 1

- a. You are employed as an Extension Officer under the Ministry of Agriculture in the Kingdom of ESwatini. A farmer comes to your office for advice concerning the amount of Nitrogen, Phosphorus and Potassium he should apply to his maize crop if he is using the compound fertiliser of 2:3:2 (22) in a land area of 15 ha. The farmer's field is located in one of the areas under the Middleveld Region of the country. Your answer should be rounded to one decimal place. (10 marks)
- b. The farmer then decides to also plant beans in a land area of 12 ha. At which time of the year can you advise him to plant his bean crop for maximum productivity? How much N, P and K should he apply if he is using the compound fertiliser of 2:3:2 (22)? Your answer should be rounded to one decimal place. (15 marks)

QUESTION 2

- a. What are the advantages and disadvantages of localized fertilizer placement method of fertilizer application? (14 Marks)
- b. What is foliar fertilizer application? Give advantages and disadvantages of this method. (11 Marks)

QUESTION 3

- a. A farmer wishes to plant old bean seed from a previous season, whose viability is 47%. How many kg of seed should he/she plant on a farm of 14 ha? If he had paid E17.50/kg of seed, how much will the seeds for the 14 ha cost? (15 marks)
- b. What are five factors that may affect the quality of seed after harvest? (10 marks)

QUESTION 4

a. Distinguish between the following pairs of words/terms. Use examples to illustrate your answers.

- (i) Biennial and perennial crops (4 Marks)
- (ii) Normal and abnormal seedlings (4 Marks)
- (iii) Top dressing fertilizer and side dressing fertilizer (4 Marks)
- (iv) Cash and catch crops (4 Marks)
- (v) Seed and grain (4 Marks)

b. Using the oven method of moisture determination, calculate the moisture content of a maize crop if the weight of the empty container is 22.595 g and the weight of the maize sample is 26.965 g after drying. (5 Marks)

QUESTION 5

- a) Describe the five types of intercropping you know. (10 Marks)
- b) Discuss three factors that determine crops combination and spatial arrangement in intercropping. (6 Marks)
- c) Discuss the three principles of crop rotation you know. (9 Marks)