



**UNIVERSITY OF ESWATINI**  
**MAIN EXAMINATION PAPER**

**PROGRAMME:** **BACHELOR OF SCIENCE IN ANIMAL SCIENCE 2**  
**BACHELOR OF SCIENCE IN ANI. SCI. DAIRY 2**  
**BACHELOR OF SCIENCE IN AGRIC. ECON. &**  
**AGRIC. BUSINESS MANAGEMENT 2**

**COURSE CODE:** **CPR211**

**TITLE OF PAPER:** **PRINCIPLES OF CROP PRODUCTION**

**TIME ALLOWED:** **2 HOURS**

**INSTRUCTIONS:** **ANSWER QUESTION 1 [COMPULSORY] AND ANY**  
**OTHER THREE [3] QUESTIONS OF YOUR CHOICE**

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

**QUESTION 1 [COMPULSORY QUESTION]**

a) In a field trial maize and groundnuts were intercropped; the yields were as follows; maize monoculture: 3.0 t/ha; Groundnuts monoculture; 0.6 t/ha, the yield maize intercropped with groundnuts was 2.5 and 0.45 t/ha respectively.

i] Calculate the LER and interpret the results [6 marks]

ii] Discuss two disadvantages of intercropping [6 marks]

b). A farmer intends to grow sorghum in a 0.4 ha field.

i] After soil tests, he is advised to apply 1.5 t/ha of dolomitic limestone. How many 50kg bags should he purchase? [4 marks]

ii] The plant spacing is 80 cm by 15 cm with **four [4]** plants per station, calculate the number of plants in the farmer's field. [5 marks]

iii] The farmer intends to top-dress with 150 kg/ha of LAN using the placement/dollop method, how much should he apply per planting station. [4 marks]

**[25 marks]**

**QUESTION 2**

Differentiate between the following, give examples where possible.

a) Conservation agriculture and Climate-smart agriculture [5 marks]

b) Major nutrient and minor nutrient [4 marks]

c) Straight fertiliser and compound fertiliser [4 marks]

d) Cash crop and catch crop [4 marks]

e) Interspecific and intraspecific crop competition [4 marks]

f) Green manure crop and companion crop [4 marks]

**[25 marks]**



**QUESTION 3**

- a). Discuss the three pillars of a crop disease triangle [12 marks]
- b). Using relevant examples, define a centre of origin [5 marks]
- c). How does seed dormancy promotes Agrobiodiversity. [4 marks]
- d) A maize farmer has been advised to plant maize at a seed rate of 25 kg/ha. However, after conducting a simple germination test she got 60%. Advise the farmer on her next move as she prepares for planting. (4 marks)

**[25 marks]****QUESTION 4**

- a) Define Intergrated Pest Management (IPM) [3 marks]
- b) List the six (6) Principles and practices of an IPM programme. [12 marks]
- c) List five (5) ways which a farmer can use to prevent the establishment of weeds in his or her field. [10 marks]

**[25 marks]****QUESTION 5**

- a) What is crop geometry [3 marks]
- b) Discuss two advantages and two disadvantages of the rectangular planting pattern. [12 marks]
- b) Discuss any two cropping systems that can be practiced in Eswatini stating the merits and demerits of each system [10 marks]

**[25 marks]**