



2ND SEM. 2004/2005

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME: DIPLOMA IN AGRICULTURE YEAR 2
 DIPLOMA IN AGRICULTURAL EDUCATION YEAR 2
 DIPLOMA IN HOME ECONOMICS YEAR 2
 DIPLOMA IN HOME ECONOMICS EDUCATION YEAR 2

COURSE CODE: CP 201 /

TITLE OF PAPER: PRINCIPLES OF CROP PRODUCTION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION ONE (1), WHICH IS A COMPULSORY QUESTION, AND ANY OTHER THREE (3) QUESTIONS OF YOUR CHOICE

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QUESTION 1

[THIS IS A COMPULSORY QUESTION]

Write, in detail, on the following. Use examples to illustrate your answers where possible. [Each question carries five marks]

- [i] Factors that affect crop growth and development
- [ii] Major cropping systems in Swaziland or in your country if other than Swaziland
- [iii] Methods of determining leaf area in crop plants
- [iv] Crop classification
- [v] Seed dormancy tests

[25 marks]

QUESTION 2

Distinguish between the following pairs of words or phrases. Use examples to illustrate your answer, where possible. [Each answer carries five marks]

- [i] Land equivalent ratio and income equivalent ratio
- [ii] HIV and AIDS
- [iii] Seed viability tests and seed vigour tests
- [iv] Alley cropping and alley farming
- [v] Cash crop and catch crop.

[25 marks]

QUESTION 3

- [i] List 10 ideal characteristics of a green manure crop [5 marks]
- [ii] What are fertilizers?. Give examples to illustrate your answer [5 marks]
- [iii] Explain the differences between organic and inorganic fertilizers. Use examples to illustrate your answer [5 marks]
- [iv] If you applied 400 kg/ha of the compound fertilizer recommended for maize production at Luyengo, how much nitrogen and phosphorus did you apply per ha. [5 marks]
- [v] Discuss the three criteria for the essentiality of an element? [5 marks]
[25 marks]

QUESTION 4

A farmer at Ingonini in Hhohho Region wishes to plant 25 ha of maize and apply 120 kg/ha of nitrogen and 32.6 kg/ha of phosphorus to a maize crop using a compound fertilizer 2-3-2[38].

- [i] How many kg of the compound fertilizer will the farmer apply to meet the P requirement? [9 marks]
- [ii] How many kg of LAN fertilizer will the farmer apply as side dressing to meet the nitrogen requirement for the maize crop? [8 marks]
- [iii] If a bag of the compound fertilizer LAN fertilizer cost E150.00 and E96.00, respectively, how much will the farmer spend on each type of fertilizer?
Please show your calculations in all cases [8 marks]
[25 marks]

QUESTION 5

Write, in detail, on the following. Give examples to illustrate your answer where applicable. [Each question carries five marks]

- [i] Types of research
- [ii] Importance of involving farmers in research
- [iii] Organic farming
- [iv] Soil versus foliar application of fertilizers
- [v] Methods of determining moisture content in seeds for storage