



1st SEM 2009/2010

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**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

**PROGRAMME: B.Sc. IN AGRICULTURAL ECONOMICS AND
AGRIBUSINESS MANAGEMENT 4 AND B.Sc. IN LAND AND
WATER MANAGEMENT 4.**

COURSE CODE: CP 402

TITLE OF PAPER: FIELD CROPS

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS.

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CHIEF INVIGILATOR**

ANSWER ANY FOUR (4) QUESTIONS

QUESTION 1

Give a brief explanation of the following:

- (a) Seed dormancy
- (b) Seed viability
- (c) Imbibition of water
- (d) Leaf area index
- (e) Growth in plants

(25 marks)

QUESTION 2

(a) Sweet potato is one of the most nutritious crops such that it provides almost all the nutrients and mineral salts needed by the body. It adapts in almost all soil types and will give yield no matter what. The only problem faced by farmers in the Highveld where they experience frosty winters is the preservation of planting material. Give a detailed explanation on how these farmers can preserve their planting material. **(20 marks)**

(b) Why is it important to keep nitrogen fertilizer minimal in sweet potato production?

(5 marks)

QUESTION 3

Cassava is one of the few drought tolerant crops being promoted in almost all the countries experiencing recurrent drought conditions. While this is true in most of the countries in the African Continent, Swaziland is opening a firm in the Lowveld that will utilize cassava tubers “just for starch” production. As a University Graduate, how would you advise the Ministry of Agriculture on this action? **(25 marks)**

QUESTION 4

- (a) Name the two types of groundnuts based on their growth habit and choose one type that you would recommend for a smallholder farmer who wish to produce “butter” and explain why you chose that type. **(15 marks)**
- (b) Give at-least five (5) reasons why recent studies indicate fluctuations and downward trend in groundnuts production in Africa. **(10 marks)**

QUESTION 5

- (a) Sugarcane production is mainly concentrated in the Lowveld of Swaziland yet it is characterised with low rainfall and high temperatures. Using these climatic parameters, discuss why the Lowveld is important in the production of this crop. **(15 marks)**
- (b) The variety NCo376 has been in the sugarcane industry of Swaziland ever since 1970s. Give the origin of the name of the variety and state why it has been in the industry for such a long time. Indicate why it is not recommended for small grower farmers. **(10 marks)**