
**UNIVERSITY OF FORT HARE
FACULTY OF SCIENCE AND AGRICULTURE**

**INTRODUCTION TO CROP SCIENCE
AGC 121**

SUPPLEMENTARY EXAM

NOVEMBER

2018

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Time: 3 HOURS

Subject: AGC 121

Marks: 100 MARKS

**This paper consists of TWO pages including the cover
page**

Examiner(s)
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INSTRUCTIONS

1. This paper consists of TWO pages including the cover page.
2. There are FIVE questions, answer ALL.
3. Write all answers in the answer book.
4. Number all answers correctly.

QUESTION 1 [20 marks]

- 1.1 Mention four (4) physical qualities of high germination quality seeds (4)
- 1.2 Mention four (4) types of internal seed dormancy and discuss how dormancy arises as a result of each type of internal dormancy (16)

QUESTION 2 [20 marks]

- 2.1 A farmer plants 2ha of Lucerne hay at spacing of 30cm intra-row and 35cm inter-row. After harvesting 10 plants, you find that on average each plant weighs 91grams on dry matter basis. If plants dry matter has N-content of 3% and P-content of 0.2%. (**Note: Show all your calculations**)
- Calculate the amount of LAN (28%) required to supplement the N removed by hay.
 - Calculate the amount of Superphosphate (10.5) required to supplement P-removed by the hay.
 - Determine the total cost of the production of hay if one 50kg bag of Urea is R150.00 and of Supers is R220.00.

QUESTION 3 [20 marks]

- 3.1 Mention three meristematic tissues according to their positions, and discuss where on the plant they are found. (09)
- 3.2 Discuss 4 ways in which bisexual flowers can prevent self-pollination. (11)

QUESTION 4 [20 marks]

- 4.1 Mention 5 of the 6 important steps involved in seed formation (10)
- 4.2 Name factors determining optimum density in Crop Production (04)
- 4.3 Describe the three essential roles of plant biochemical inhibitory effects in Agriculture. (06)

QUESTION 5 [20 marks]

- 5.1 List any 2 resources that plants compete for. (02)
- 5.2 Under what conditions would you advise the farmer to inoculate the seed? (10)
- 5.3 List 4 fertilizer application methods applied by farmers and the time of application. (08)