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UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: B.Sc. IN AGRONOMY YEAR 3
B.Sc. IN HORTICULTURE YEAR 3.

COURSE CODE: CP 301

TITLE OF PAPER: CROP BREEDING

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS.

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

QUESTION 1

Write short notes on the following crop breeding terms:

a) Sporophytic self incompatibility (5 MARKS)
b) Reciprocal recurrent selection (5 MARKS)
c) Synthetic variety (5 MARKS)
d) Ht crops (5 MARKS)
e) Bt crops (5 MARKS)

[25 MARKS]

QUESTION 2

a) Discuss why plant breeding is regarded as both an art and science. (10 MARKS)
b) Give any five (5) plant breeding goals with relevant examples. (15 MARKS)

[25 MARKS]

QUESTION 3

a) Define the term "crop genetic resources" and also identify the various sources where they can be obtained for use in a crop breeding programme. (8 Marks)
b) Discuss the activities that are involved in the management of crop genetic resources and give reasons why it is important to conserve crop genetic resources. (12 Marks)
c) Differentiate between crop genetic diversity and crop genetic variability. (5 Marks)

[25 MARKS]

QUESTION 4

a) Define hybridization in self pollinated crop plants and its main objective. (6 Marks)
b) Explain the criteria of choosing parents to initiate a pedigree breeding programme. (5 Marks)
c) In terms of selection, what are the main differences between the pedigree and bulk population breeding methods? Support your answer with relevant diagrams. (14 Marks)

[25 MARKS]

QUESTION 5

Write a paper for a presentation at a UNISWA departmental seminar entitled " Apomixis for crop improvement" **[25 MARKS]**