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(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR

FOURTH YEAR 1ST SEMESTER
SPECIAL/SUPPLEMENTARY EXAMINATIONS

**FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE
EDUCATION AND EXTENSION**

COURSE CODE: SBT 427

COURSE TITLE: PLANT BREEDING & SEED TECHNOLOGY

DATE: Thursday 4th February, 2021 **TIME:** 11:00 – 1:00 p.m.

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

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Question 1

- a. (i) Define seed dormancy. (4 Marks)
(ii) How is seed dormancy broken? (4 Marks)
- b. Differentiate between gametophytic and sporophytic incompatibility in plants. (4 Marks)
- c. Briefly discuss the main methods of selection in both self-pollinated and cross-pollinated plants. (5 Marks)
- d. What are quantitative and qualitative characters in plant breeding? (5 Marks)
- e. Outline the basic features of plant embryogenesis. (4marks)
- f. Discuss hybridization as applied in plant breeding (4 Marks)
- g. Highlight the basic requirements of the domestication and evolution processes (4 Marks)

Question 2

Discuss tissue culture and its application in plant breeding (20 Marks)

Question 3

Discuss genetic issues and breeding implication of clonal propagation (20 Marks)

Question 4

Discuss plant mating and reproductive systems in plants. (20 Marks)

Question 5

Using well labelled diagrams explain how pollination, fertilization and formation of zygote occur in plants (20 Marks)