



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR**

### **FOURTH YEAR FIRST SEMESTER MAIN EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE  
AND BIOTECHNOLOGY**

**COURSE CODE: SBT 427**

**COURSE TITLE: PLANT BREEDING AND SEED  
TECHNOLOGY**

**DATE:** Tuesday 13<sup>th</sup> July, 2021.

**TIME:** 8:00 – 10:00 a.m.

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#### **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 3 printed pages. Please Turn Over



**KIBU observes ZERO tolerance to examination cheating**

### **QUESTION ONE**

- a) Outline four benefits of plant breeding. (4 Marks)
- b) Explain one conventional method of plant breeding. (4 Marks)
- c) Define the term 'gene' and further explain its role in heredity. (4 Marks)
- d) State the significance of sexual reproduction. (4 Marks)
- e) What is seed dormancy? (2 Marks)
- f) Enumerate four disadvantages of pedigree selection. (4 Marks)
- g) Distinguish between primary introduction and secondary introduction. (4 Marks)
- h) Describe the reproductive system of a plant. (4 Marks)

### **QUESTION TWO**

- a) What is the purpose of plant introduction? (12 Marks)
- b) Describe four mechanisms of promoting outogamy. (8 Marks)

### **QUESTION THREE**

- a) Write explanatory notes on the following methods of plant breeding.
  - i. Back cross method (5 Marks)
  - ii. Pureline selection (5 Marks)
- b) Explain the steps in the procedure of plant introduction. (10 Marks)

### **QUESTION FOUR**

- a) Using a well labelled diagram, describe the structural composition of a seed. (12 Marks)
- b) Elaborate on the two forms of germplasm conservation in plants. (8 Marks)

### **QUESTION FIVE**

Citing relevant examples, discuss the asexual mode of reproduction. (20 Marks)