



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR
FOURTH YEAR FIRST SEMESTER
MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF EDUCATION SCIENCE

COURSE CODE: ABI 413
COURSE TITLE: PLANT AND ANIMAL BREEDING
DATE: 25TH APRIL 2023 **TIME: 9 – 11 AM**

INSTRUCTIONS TO CANDIDATES

Answer Question ONE and any other TWO Questions.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

QUESTION ONE

- a. Define plant breeding **(2 marks)**
- b. State the advances in plant breeding technologies **(7 marks)**
- c. Explain the importance of genetic diversity in a breeding program **(4 marks)**
- d. Explain the mechanisms promoting self-pollination in plants **(4 marks)**
- e. Outline the practical applications of tissue culture in plant breeding **(5 marks)**
- f. Define the following terms.
 - i. Polyploidy **(2 marks)**
 - ii. Somatic hybridization **(2 marks)**
 - iii. Cloning **(2 marks)**
 - iv. Hybrid vigor **(2 marks)**

QUESTION TWO

Explain how the following techniques are used in the plant breeding program

- i. Cytoplasmic male sterility (CMS) **(10 marks)**
- ii. Genetic male sterility **(10 marks)**

QUESTION THREE

Discuss the importance and limitations of mutation in plant breeding **(20 marks)**

QUESTION FOUR

Describe the set-up of the animal breeding program **(20 marks)**

QUESTION FIVE

Discuss the importance of breeding to society **(20 marks)**