



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

**FOURTH YEAR FIRST SEMESTER/THIRD YEAR FIRST
SEMESTER
MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL
EDUCATION AND EXTENSION**

COURSE CODE: ABI 311/ABI 413
COURSE TITLE: PLANT AND ANIMAL BREEDING
DATE: 17TH MAY 2022 **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. Briefly describe two ways in which plant and animal breeding can be done. (4 marks)
- b. List six important reasons for breeding plants and animals (6 marks)
- c. List three internationally recognized centers for crop and/or livestock improvement indicating the plant or animal of interest. (6 marks)
- d. List two genetic disorders arising from uncontrolled or poor breeding in livestock.
(2 marks)
- e. Food production can be doubled while greatly decreasing the negative environmental footprint of agriculture by the adoption of four strategies: List these strategies. (4 marks)
- f. Define the following terms as used in Plant and Animal Breeding.
 - i. Gene (2 marks)
 - ii. Germplasm (2 marks)
 - iii. Heritable traits (2 marks)
 - iv. Somaclonal variation (2 marks)

QUESTION TWO

With examples, discuss the three sources/centers of genetic diversity stating the features of each centre. (20 marks)

QUESTION THREE

Discuss five methods/techniques of germplasm conservation (20 marks)

QUESTION FOUR

Write short notes on five breeding strategies employed in the improvement of crops and livestock production. (20 marks)

QUESTION FIVE

The process of improving crop traits and developing a hybrid variety, with regard to a given species, typically involves several steps: Describe these steps. (20 marks)