(10) (16)

(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

FOURTH YEAR FIRST SEMESTER/THIRD YEAR FIRST SEMESTER
SPECIAL/SUPPLEMENTARY EXAMINATIONS

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: 15TH NOVEMBER 2022 **TIME:** 8 – 10 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

QUESTION ONE

a. Define the following terms as used in Plant and Animal Breeding.
    i. Recessive gene (2 marks)
    ii. Heterosis (2 marks)
    iii. Cleistogamy (2 marks)
    iv. Ex situ gene bank (2 marks)
    v. Polyploidy (2 marks)
b. List three centres conducting research on crop and/or livestock improvement in Kenya (3 marks)
c. How is bioinformatics important in improvement of plant and animal breeds? (2 marks)
d. Giving examples, differentiate between ex situ and in situ gene banks. (6 marks)
e. List five advantages of using tissue culture in the propagation of new plant varieties over other conventional methods. (5 marks)
f. List four advanced breeding techniques used to improve livestock productivity. (4 marks)

QUESTION TWO

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)

QUESTION THREE

Discuss the contribution of Plant and Animal Breeding to sustainable production of quality human food. (20 marks)

QUESTION FOUR

Discuss the trends and strategies for incorporating new methodologies in plant and animal breeding for the future of sustainable agriculture. (20 marks)