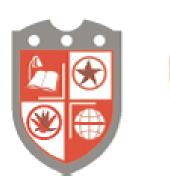
**AGED 212** 





UNIVERSITY

# **UNIVERSITY EXAMINATIONS**

1<sup>ST</sup> SEMESTER 2022/2023 ACADEMIC YEAR

## SECOND YEAR EXAMINATIONS FOR BACHELOR OF SCIENCE IN AGRICULTURAL EXTENSION AND EDUCATION

AGED 212: PLANT BREEDING

STREAM: R

TIME: 2 HRS

DAY: TUESDAY (14.30-16.30PM) DATE: 6/12/22

THIS QUESTION PAPER CONSISTS OF THREE (3 PAGES) PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

 Vision: A University for Valued Transformation of Society
 Page 1 of 3

 Mission: To serve students and society through research, education, scholarship, training, innovation, outreach and consultancy



Laikipia University is ISO 9001:2015 and ISO/IEC 27001:2013 Certified



#### **INSTRUCTIONS:** Answer questions **ONE** and any other **TWO** questions

#### **QUESTION ONE (30 MARKS)**

a. Discuss three patterns of evolution of cultivated crops.	(4 mks)
b. Briefly discuss the procedure of releasing new varieties.	(3 mks)
c. List five main differences between breeding self pollinated and cross	
pollinated crops.	(5 mks)
d.Explain giving examples the meaning of the following terms in plant breeding:	(3 mks)
i) Diallel cross	
ii) Parthenogenesis	
iii) Gene for gene relationship	
e. Explain giving examples the meaning of the following terms in plant Breeding	(3 mks)
i) Microcenter	
ii) Pure line	
iii) MS	
f. Discuss differences between oligogenic and polygenic modes of inheritance.	(2 mks)
g. Discuss TWO types of genetic resources.	(3 mks)
h. Explain THREE mechanisms that encourage allogamy.	(3 mks)
i. Compare oligogenic with polygenic modes of inheritance.	(4 mks)

#### SECTION B: ESSAY QUESTIONS (40 MARKS)

#### ANSWER ANY TWO QUESTIONS

#### **QUESTION TWO**

Discuss five common plant breeding methods.

(20 mks)

KEBS



#### **AGED 212**

### **QUESTION THREE**

<ul><li>a). Discuss stages in development of fungal diseases today.</li><li>b). Explain the activities of gene bank.</li></ul>	(15 mks) (5 mks)
QUESTION FOUR	
Discuss the following:	
a) Techniques in breeding field crops.	(10 mks)
b) Male sterility in plants and methods of overcoming it.	(10 mks)
QUESTION FIVE	
Write an essay on the main achievements and challenges in plant breeding today.	(20 mks)

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