

LAIKIPIA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

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

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

**AGED 417: AGROFORESTRY**

***STREAM: R***

***TIME: 2 HRS***

***DAY: MONDAY (8.30-10.30AM)***

***DATE: 19/12/22***

**THIS QUESTION PAPER CONSISTS OF THREE (3 PAGES)**

**PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.**



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

**QUESTION ONE (30 MARKS)**

(a) Explain the following cropping systems as used in Agroforestry

- i. Intercropping (1 mark)
- ii. Relay cropping (1 mark)
- iii. Alley cropping (1 mark)
- iv. Strip cropping (1 mark)

(b) Differentiate between the following

- i. Apiculture and sericulture (2 Marks)
- ii. Strip grazing and forward-creep grazing (2 Marks)

(c) Discuss the economic importance of Macademia nut as a tree for inclusion in Agro-forestry system (5 marks)

(d) Explain the following in relation to tree-crop interactions

- (i) Mycorrhiza (5 marks)
- (ii) Allelopathy (3 marks)

(e) Outline the functions of shelterbelt in Agro-forestry farming systems in Kenya (9 marks)

**QUESTION TWO (20 MARKS)**

Discuss the advantages and disadvantages of the following.

- (a) Taungya Agroforestry (10 marks)
- (b) Shifting cultivation (5 marks)
- (c) Home gardens (5 marks)

**QUESTION THREE (20 MARKS)**

Outline participatory rural appraisal (PRA) as a method of diagnosis and design of Agro-forestry systems under the following:

- (a) Main concept (5 marks)
- (b) Characteristics of a good PRA (5 marks)
- (c) Potential dangers and drawbacks (5 marks)
- (d) Tools and techniques (5 marks)

**QUESTION FOUR (20 MARKS)**

- (a) Explain basic principles of Agroforestry (4 marks)
- (b) Outline characteristics of Agroforestry systems (6 marks)
- (c) Explain main objective of Agroforestry system (5 marks)
- (d) Outline the limitations of Agroforestry (5 marks)

