

LAIKIPIA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

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

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

**AGED 315: ANNUAL CROPS**

***STREAM: R***

***TIME: 2 HRS***

***DAY: WEDNESDAY (11.30-13.30PM) DATE: 21/12/22***

**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 botanical reasons why maize is monoecious and protandrous (2 mks)
- b) Dry planting has been known to increase yields by 20-25% in marginal areas in Kenya. Explain the reason that could contribute to this and how it affects the agronomic and yield components contributing to grain yield increase in Trans Nzoia County. (7 mks)
- c) Weeds cause significant yield losses in maize if not well managed in high potential areas. As a county extension officer, outline the steps you will advise a medium scale farmer to use and maintain a weed free field from planting to maturity (6 mks)
- d) Sorghum is an important food security crop especially in arid and semi-arid zones in Kenya. Outline basic objectives of sorghum (*sorghum bicolor* L.) improvement in Kenya (5 mks)
- e) Differentiate the following terms
  - i. Root development and pegging in groundnuts (3 mks)
  - ii. Biotic and abiotic factors in annual crop production (4 mks)
  - iii. Cultural and biological pest control (4 mks)

**QUESTION TWO (20 MARKS)**

- a) There has been a steady increase in agricultural technology and output over the years, however food prices are also on the upward trajectory. Explain factors contributing to this scenario (10 mks)
- b) Describe best agricultural practices for cultivation of sunflower (5 mks)
- c) Outline the economic importance merits of finger millet over modern cereals such as maize (5 mks)



**QUESTION THREE (20 MARKS)**

- a) Outline best cultivation practices for maize using the following subtopics:  
cultivars/varieties, agro-ecological requirements and agronomic practices (10 mks)
- b) Describe best agricultural practices for cultivation of common beans (10 mks)

**QUESTION FOUR (20 MARKS)**

Write short notes on:

- a) *Busseola fusca* and *ophiomyia phaseoli* (5 mks)
- b) Maize lethal necrosis MNLN and sorghum shoot fly (5 mks)
- c) Nitrogenfertilizers and phosphatic fertilizers (5 mks)
- d) Push-pull technology and allelopathy (5 mks)

