



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FIRST YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF MASTER OF SCIENCE IN FOOD SECURITY AND SUSTAINABLE
AGRICULTURE**

2023/2024 ACADEMIC YEAR

COURSE CODE: AFB 5127

COURSE TITLE: Agricultural Innovations

DATE:

**STREAM: MSc. (Food Security and
Sustainable Agriculture)**

TIME THREE HOURS

Instructions:

- 1. Answer question ONE and any other TWO questions.**
- 2. All questions carry equal marks.**

Question 1

How can precision agriculture technologies, such as drones and sensors, enhance crop production and reduce environmental impact? (20 MARKS)

Question 2

Discuss the concept of agroforestry and its role in promoting sustainable agriculture and enhancing food security. (20 MARKS)

Question 3

Discuss some of the innovative strategies for managing pests and diseases in crops and livestock that minimize the use of chemical pesticides. (20 MARKS)

Question 4

Discuss some some of the innovative approaches to livestock farming that address both productivity and environmental sustainability. (20 MARKS)

Question 5

Discuss the potential benefits and challenges of genetically modified (GM) crops in achieving food security and sustainable agriculture. (20 MARKS)
