



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

FIRST YEAR FIRST SEMISTER EXAMINATION FOR

MASTER OF SCIENCE IN AGRICULTURAL ECONOMICS AND DEVELOPEMENT

AED 818: SUSTAINABLE AGRICULTURE AND FOOD SYTEMS

DATE: 26/8/2022

TIME: 9.00-12.00 PM

INSTRUCTIONS: Answer question ONE and any other TWO questions

QUESTION ONE (20 MARKS)

- Explain four strategies farmers can adopt in managing crop-livestock system to make it a success in Kenya (4 marks)
- Explain five principles of sustainable agriculture and food systems (5 marks)
- Describe five methodologies of measuring food loss and waste (5 marks)
- Discuss three impacts of climate change on food security (6 marks)

QUESTION TWO (20 MARKS)

Using relevant examples, discuss the roles of five climate smart agriculture (CSA) practices in managing climate change in Kenya

QUESTION THREE (20 MARKS)

- Describe the steps on how to apply Dietary Diversity Scores (DDS) to assess dietary diversity at the household level (10 marks)
- Citing specific examples, discuss any five roles of agricultural innovations in sustainable agriculture and food systems (10 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss four challenges farmers face in utilization of non-conventional water for agricultural productivity. (8 marks)
- b) With specific examples, explain six strategies of managing pest and diseases (6 marks)
- c) Explain three ways in which collective action can enhance sustainability of agriculture and food systems (6 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss five impacts of food loss and waste on sustainable food systems in developing countries (10 marks)
- b) Explain five policy strategies to reduce food loss and waste in Kenya (10 marks)