



# MACHAKOS UNIVERSITY

University Examinations 2023/2024 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF AGRICULTURAL EDUCATION AND EXTENSION

AGR 483 CLIMATE CHANGE AND ADAPTATION IN AGRICULTURE

**DATE:**

**TIME:**

**Instructions: Answer question ONE (compulsory) and any other TWO questions**

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

Answer Question ONE and any other TWO questions

### **QUESTION ONE (30 marks)**

a) Explain the following

- i. Climate (2 marks)
- ii. Climate Change (2 marks)
- iii. Adaptation (2 marks)
- iv. Mitigation (2 marks)
- v. Climate smart agriculture (2 marks)

b) Explain the elements of weather (10 marks)

c) Discuss the impacts of climate change on crop farming in Kenya (10marks)

### **QUESTION TWO (20 MARKS)**

You have been appointed as a programme officer in Northern Kenya and its Associated Rangelands to help the pastoral communities in the adaptation and mitigation to climate change. Explain to the Appointing Authority how you are going to deliver your mandate

### **QUESTION THREE (20 MARKS)**

Discuss how integrated Climate-Smart Agriculture (CSA) approach can be a solution to food insecurity in Kenya

**QUESTION FOUR (20MARKS)**

Asses the capacity of the Kenyan Government's legal and policy frameworks to tackle the impacts of climate change on agriculture

**QUESTION FIVE (20 MARKS)**

Discuss how carbon trading or credit financing can address the impacts of climate change in developing Countries