

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN  
AGROECOSYSTEMS AND CLIMATE CHANGE**

**AECC 812: AGRO ECOLOGICAL FARMING SYSTEMS**

**STREAMS: MSC. AECC**

**TIME: 3 HOURS**

**DAY/DATE: MONDAY 09/12/2024**

**2.30 P.M. – 5.30 P.M.**

**INSTRUCTIONS:**

- **Answer all questions in Section A and any two in Section B**

**SECTION A: 20 MARKS**

Q1. a) In your opinion do you think traditional knowledge helps adaptation in agricultural production system (5 marks)

b) Agro-ecology techniques and designs function as an “ecological turntable” by activating and influencing key components and processes of the agro-ecosystem. Substantiate (5 marks)

Q2. a) Elaborate on the practices that can achieve Economics in an agro ecological farming system (5 marks)

b) Expound on the characteristics of Sustainable Agriculture (5 marks)

**SECTION B: 40 MARKS**

Q3 a) Detail the Myths that revolve around Agro-Ecology that may limit its adoption (10 marks)

b) You have been given a task of assessing whether EcoFarm is utilizing agroecological principles in their design and management. Outline the indicators you will use to assess the farm (10 marks)

Q4 a) Give account of the strategies to restore agricultural diversity in time and space in an agroecological set up (12 marks)

b) Climate change adaptation and mitigation strategies should aim at maintaining, or even increasing, food production in key exporting developed and developing regions, or in regions key to regional food security. As an agroecological expert, what are the barriers to mitigation (8 marks)

Q5.a) Agroecological farm planning and design can be done following a number of principles put together based on the experiences of the farmer. Discuss (10 marks)

b) Describe mechanisms for increasing carbon sinks and reducing CO<sub>2</sub> and other greenhouse gas emissions in agricultural systems (8 marks)

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