



# UNIVERSITY OF EMBU

---

2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

FIRST YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
MANAGEMENT OF AGROECOSYSTEMS AND ENVIRONMENT

AEM 102: AGRO-ECOLOGY 1

**DATE: APRIL 4, 2017**

**TIME: 11:00AM-1:00PM**

---

**INSTRUCTIONS:**

**Answer Question ONE and ANY Other TWO Questions.**

---

**QUESTION ONE**

- a) Explain ecological principles used in designing agro ecosystems (5 Marks)
- b) Explain factors that affect the abundance and distribution of organisms (6 Marks)
- c) Explain the three fields of Synecology (6 Marks)
- d) Explains the features of random distribution (6 Marks)
- e) Explain four aspects of resilience as used in agroecology (4 Marks)
- f) Differentiate between equilibrium and disequilibrium states (3 Marks)

**QUESTION TWO**

- a) Discuss the form of plant distribution commonly found in agricultural systems (10 Marks)
- b) Explain the factors that influence plant distribution (10 Marks)

**QUESTION THREE**

- a) Discuss the Liebig's law of minimum (10 Marks)
- b) Explain the Concept of Limiting Factors (10 Marks)

**QUESTION FOUR**

- a) Explain energy flows in an agroecosystem (15 Marks)
- b) Using an illustrations differentiate between a food chain and food web (5 Marks)

**QUESTION FIVE**

- a) Explain how speciation has been initiated in agriculture (10 Marks)
- b) Describe the geographical modes of speciation (10 Marks)

**END**