



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

P.O. Box 62157

00200 Nairobi - KENYA

Telephone: 891601-6

MAIN EXAMINATION

SEPTEMBER – DECEMBER 2019 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 415: PLANT ANIMAL INTERACTIONS

Date: DECEMBER 2019

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a. Define
- i. Mimicry **(1mark)**
 - ii. Herbivory **(1mark)**
 - iii. Biopesticide **(1mark)**
 - iv. Coevolution **(1mark)**
 - v. Antagonism **(1mark)**
- b. Seed dormancy occurs in different plants and has some advantages. How is it achieved? **(3marks)**
- c. Explain on why some plants have the need to feed on insects. Give an example of such plants **(2marks)**
- d. Mutualism is a common form of plant animal interactions. Describe three types of mutualism with an example.

(6marks)

- e. Explain three factors that determine abundance of herbivores

(6marks)

- f. Flow of energy through various trophic levels in an ecosystem is unidirectional. Explain.

(4marks)

- g. Describe coevolution and two broad categories in plant animal interactions.

(4marks)

- Q2. a) Although sexual reproduction is an energy-intensive form of reproduction, many groups of organisms in Kingdom Animalia and Plantae prefer this mode of reproduction. Give reasons for this.

(4marks)

- b) Discuss four factors that favour outcrossing in plants.

(16marks)

- Q3. a) Plants overtime have evolved different mechanisms to ensure survival.
b) Discuss plant defenses against herbivory.

(15marks)

- c) Explain the link between the effects of herbivory and soil stability

(5marks)

- Q4. Species interactions are a major driver of coevolution. Illustrate using a diagram host specificity driving coevolution in plant pollinator interactions.

(20marks)

- Q5. A variety of species occupy the second trophic level in food webs and food chains. Discuss mechanisms that organisms in the second trophic level use in feeding.

(20marks)

END