



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
FOURTH YEAR SECOND SEMESTER
&
SECOND YEAR SECOND SEMESTER
SCHOOL OF TOURISM AND NATURAL
RESOURCE MANAGEMENT
BACHELOR OF SCIENCE IN WILDLIFE
MANAGEMENT**

**COURSE CODE: WLM 468/WRM 2206
COURSE TITLE: COMMUNITY ECOLOGY**

DATE: 26TH APRIL, 2018

TIME: 1100 - 1300 HRS

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section **A** and any other **THREE** in section **B**.

This paper consists of 3 printed pages. Please turn over.

Section A: Answer all questions (25 marks)

Question 1

Savanna ecosystems structures are determined by availability of resources and ecological disturbance. Briefly describe the major resources and forms of ecological disturbances and how they affect savannas (6 marks)

Question 2

- a) Describe predator prey dynamics with examples and an illustration (6 Marks)
- b) In a normal setting, predators (higher trophic level) are more than prey (lower trophic levels). Briefly describe a scenario in which this general rule is not applicable. (3 marks)

Question 3

Briefly highlight the characteristics of:

- a) R-species (5 marks)
- b) K-species (5 marks)

Section B: Answer any three questions (45 marks)

Question 1

- a) Briefly describe ecological succession? (3 marks)
- b) Using example and illustrations, discuss ecological succession in a community (12 marks)

Question 2

As a manager, you have conducted a bird census and come up with the following figures.

Species	Bird Sanctuary A	Bird Sanctuary B
Kestrel	5	2
Weaver bird	24	19
Ox-pecker	6	3
Wood pecker	4	2
Owl	3	2
Fire finch	16	15
Cuckoo	6	2
Haded ibis	3	6
Speckled pigeon	12	5
Sacred ibis	5	9
Cattle egrets	7	6

Calculate:

- a) Species richness of each sanctuary **(2 marks)**
- b) Relative abundance of each species **(4 marks)**
- c) What are the 2 most dominant species in both sanctuaries **(2 marks)**
- d) Species diversity of each sanctuary using the Shannon Weiner index **(6 marks)**
- e) Which sanctuary has a higher diversity index **(1 marks)**

Question 3

Discuss the biogeography factors affecting community distribution
(15 Marks)

Question 4

Prey use different mechanisms to avoid predation. Using examples, discuss the anti-predatory behavior in different organisms. **(15 marks)**

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