



MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR IN ENVIRONMENTAL SCIENCES

ECD 109: HUMAN ECOLOGY AND ADAPTATION

DATE: 26/9/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE (30 Marks)

- a) Define the following terms
- | | |
|-------------------|-----------|
| i. Human ecology? | (2 marks) |
| ii. Environment | (2 marks) |
| iii. Ecosystem | (2 marks) |
| iv. Habitat | (2 marks) |
| v. Organism | (2 marks) |
| vi. Species | (2 marks) |
| vii. Evolution | (2 marks) |
- b) Describe the segments of ecosystems where all biotic and abiotic features are found (10 marks)
- c) Using examples, describe the Gaia hypothesis (6 marks)

QUESTION TWO

Discuss the five (5) environmental management paradigms and which paradigm would be most suitable for Kenya (20 marks)

QUESTION THREE

Explain the following cycles and their relevance to their environment:

- a) Carbon cycle (10 marks)
- b) Nitrogen cycle (10 marks)

QUESTION FOUR

Discuss ten (10) strategies human beings have used to adopt to their present and changing environment. (20 marks)

QUESTION FIVE

Describe the two types of ecosystem feedbacks and how they impact habitats in Kenya (20 marks)