



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR
BACHELOR OF ENVIRONMENTAL STUDIES (COMMUNITY DEVELOPMENT)

ECD 109: HUMAN ECOLOGY AND ADAPTATION

DATE: 20/1/2021

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. Human evolution (2 marks)
- b) Describe the segments of ecosystems (12 marks)
- c) Using examples, describe the Gaia hypothesis (10 marks)

QUESTION TWO (20 MARKS)

Describe the two types of ecosystem feedbacks and how they impact habitats in Kenya

QUESTION THREE (20 MARKS)

Using diagrams, discuss the following biogeochemical cycles

- a) Carbon cycle (10 marks)

- b) Nitrogen cycle (10 marks)

QUESTION FOUR (20 MARKS)

Discuss the FIVE basic types of societies that have existed over the course of human history.

QUESTION FIVE (20 MARKS)

- a) Discuss the four components of natural selection (10 marks)
- b) Discuss the conditions that must be met in order for natural selection to occur in a population (10 marks)