



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 SCIENCE

ECD 109: HUMAN ECOLOGY AND ADAPTATION

DATE: 22/7/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE

- a) Describe human ecology (2 marks)
- b) Define the following terms
- i. Environment (1 mark)
 - ii. Ecosystem (1 mark)
 - iii. Habitat (1 mark)
 - iv. Organism (1 mark)
 - v. Species (1 mark)
- c) Describe the segments of ecosystems where all biotic and abiotic features are found (5 marks)
- d) Using examples, describe the Gaia hypothesis (6 marks)
- e) i. What is human evolution? (2 marks)
- ii. Describe the fundamental ideas that entail Darwin's theory of evolution (6 marks)
 - iii. What are the four components of Darwin's theory of natural selection? (4 marks)

QUESTION TWO

Discuss

- a) nitrogen cycle (10 marks)
- b) carbon cycle (10 marks)

QUESTION THREE

- a) Explain the FIVE ways water causes erosion on the earth's surface? (10 marks)
- b) Discuss any FIVE types of water erosion. (10 marks)

QUESTION FOUR

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

QUESTION FIVE

Discuss the FIVE basic types of societies that have existed over the course of human history.
(20 marks)