



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL STUDIES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF ENVIRONMENTAL STUDIES (ENVIRONMENTAL
RESOURCE CONSERVATION)

ERC 104: PRINCIPLES OF BIOLOGY

DATE: 6/6/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS:

Answer Question ONE and ANY other Two Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define the following terms
- i. Ecosystem (2 marks)
 - ii. Food chain (2 marks)
 - iii. Ecological efficiency (2 marks)
 - iv. Ecological Niche (2 marks)
 - v. Habitat (2 marks)
- b) Explain the structural components of an ecosystem of your choice (10 marks)
- c) Using specific example(s), explain how energy flows in an ecosystem (10 marks)

QUESTION TWO (20 MARKS)

Using diagrammatic illustrations, describe the hydrological and carbon cycles (20 marks)

QUESTION THREE (20 MARKS)

Discuss the four main segments of the Earth's Environment (20 marks)

QUESTION FOUR (20 MARKS)

Discuss any two types of aquatic ecosystems in Kenya and indicate the threats they experience from anthropogenic activities (20 marks)

QUESTION FIVE (20 MARKS)

Using a named ecosystem discuss the concept of ecological succession (20 marks)