



# MACHAKOS UNIVERSITY

University Examinations for 2018/2019

**SCHOOL OF ENVIRONMENT AND NATURAL RESOURCE MANAGEMENT**

**DEPARTMENT OF ENVIRONMENTAL SCIENCES**

**FIRST YEAR SUPPLEMENTARY EXAMINATION FOR**

**BACHELOR OF ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)**

**ERC 107: INTRODUCTION TO AGRO-ECOSYSTEMS AND NATURAL RESOURCES**

**DATE: 27/9/2019**

**TIME: 8:30 – 10:30 AM**

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**INSTRUCTIONS: Answer question ONE and any other TWO questions**

## **QUESTION ONE (COMPULSORY)(30 MARKS)**

- a) Explain the following terms
- i) Hydrogeochemical process (2 marks)
  - ii) Ecosystem services (2 marks)
  - iii) Agrobiodiversity (2 marks)
- b) Differentiate the following terms
- i) Point and Non-point sources of pollution (4 marks)
  - ii) Ecosystem and agroecosystem (4 marks)
- c) Describe different trophic levels that can be found in natural ecosystems (10 marks)
- d) Discuss THREE ecosystem disservices that come about due to agroecosystems utilization (6 marks)

## **QUESTION TWO (20 MARKS)**

- a) Explain features that distinguish agrobiodiversity from natural biodiversity (10 marks)
- b) Discuss the various roles of agrobiodiversity in Machakos County (10 marks)

## **QUESTION THREE (20 MARKS)**

Using appropriate examples, discuss the importance of soil organic matter in Kenyan Agroecosystems.

**QUESTION FOUR (20 MARKS)**

Describe the water cycle and explain its linkages with agroecosystems in Kenya

**QUESTION FIVE (20 MARKS)**

Using local examples, discuss the categories of ecosystem services