



MACHAKOS UNIVERSITY

University Examinations For 2018/2019 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL STUDIES (RESOURCE CONSERVATION)

ERC 107: INTRODUCTION TO AGRO-ECOSYSTEMS AND NATURAL RESOURCES

DATE: 9/5/2019

TIME: 8:30 – 10:30 AM

INSTRUCTIONS: Answer question ONE and any other TWO questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Explain the following terms:
- i) Ecosystem (2 marks)
 - ii) Agroecosystem (2 marks)
 - iii) Hydrogeochemical process (2 marks)
 - iv) Ecosystem services (2 marks)
 - v) Agrobiodiversity (2 marks)
- b) Differentiate between point and non-point sources of pollution (4 marks)
- c) Describe the different trophic levels that can be found in natural ecosystems (10 marks)
- d) Agroecosystems can be sources of disservices to natural resources. Describe any THREE such disservices. (6 marks)

QUESTION TWO (20 MARKS)

Describe key emergent qualities of natural ecosystems, and explain how they are altered when they are converted to agroecosystems.

QUESTION THREE (20 MARKS)

- a) Distinguish between agrobiodiversity and natural biodiversity. (10 marks)
- b) Discuss the various roles of agrobiodiversity. (10 marks)

QUESTION FOUR (20 MARKS)

Discuss importance of soil organic matter in agroecosystems

QUESTION FIVE (20 MARKS)

Describe the movement of water in agrosystems that link land and aquatic systems