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 STUDIES (RESOURCE CONSERVATION)

ERC 107: INTRODUCTION TO AGRO-ECOSYSTEMS AND NATURAL RESOURCES

DATE: 26/7/2019   **TIME:11.00-1.00 PM**

INSTRUCTIONS;
Answer question ONE and any other TWO questions

QUESTION ONE (COMPULSORY) (30 Marks)

a)   What do the following terms mean?

           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 the movement of water in agroecosystems that link land and water.

QUESTION THREE (20 MARKS)

Using examples found in Kenya, discuss why soil organic matter is important in agroecosystems.

QUESTION FOUR (20 MARKS)

a)   Explain the distinct features of agrobiodiversity that separates it from natural biodiversity.

(10 marks)

b)   Discuss the various roles of agrobiodiversity as identified by research and experience.

(10 marks)

QUESTION FIVE (20 MARKS)

a)   Discuss the categories of ecosystem services using examples.   (10 marks)

b)   Describe key emergent qualities of ecosystems, and how they are altered as they are converted to agroecosystems.   (10 marks)