



EMBU UNIVERSITY COLLEGE
(A Constituent College of the University of Nairobi)

2015/2016 ACADEMIC YEAR
SECOND SEMESTER EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE (MANAGEMENT OF AGRO-ECOSYSTEMS AND ENVIRONMENT)

AEM 203: AGROECOLOGY 2

DATE: APRIL 11, 2016

TIME: 8:30-10:30

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions

QUESTION ONE

- a) i) Explain the term an ecosystem service? (2 Marks)
ii) Give three examples of an ecosystem service in the environs of EUC. (3 Marks)
- b) Differentiate the following terms used in agro-ecology:
i) Ecosystem and agro-ecosystems. (2 Marks)
ii) Genetic diversity and Species diversity. (2 Marks)
iii) Population and Community. (2 Marks)
- c) State four causes of loss and change of biodiversity? (4 Marks)
- d) State five factors limiting agricultural productivity of smallholder farming systems in Kenya. (5 Marks)
- e) Name three methods, which can used to control pest in a smallholder agro-ecosystem. (3 Marks)
- f) Define soil quality. (2 Marks)
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- g) State the main categories of soil nutrients and give examples, which are important for crop growth in a healthy soil. (2 Marks)
- h) Name the soil property considered as the indicator of soil quality. (1 Mark)
- i) Justify your answer in (h) above. (2 Marks)

QUESTION TWO

- a) Explain the term biodiversity and agro diversity (4 Marks)
- b) Discuss the benefit of biodiversity. (16 Marks)

QUESTION THREE

- a) Define the term weed? (2 Marks)
- b) Explain four ways in which weed causes direct losses to the smallholder farmer. (8 Marks)
- c) State the five characteristics of weed that make them excellent competitors with the crop plants. (10 Marks)

QUESTION FOUR

- a) Explain the term nutrient cycling? (2 Marks)
- b) Explain the broad categories of nutrient cycles found in an ecosystem, giving an example in each category? (4 Marks)
- c) Discuss briefly the importance of nutrient cycling in an agro-ecosystem. (4 Marks)
- d) Explain the carbon cycle using a simple diagram. (10 Marks)

QUESTION FIVE

- a) State the factors that led man to practice agriculture during the early ages. (4 Marks)
- b) State the advantages of integrating livestock and crops in a convectional agriculture under smallholder production system. (4 Marks)
- c) Discuss the importance of conventional agriculture. (12 Marks)

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