



The Co-operative University of Kenya

END OF SEMESTER EXAMINATIONS APRIL-2019

EXAMINATION FOR THE DEGREE OF BACHELOR OF AGRIBUSINESS

MANAGEMENT

(YR IV SEM II)

UNIT CODE: BAFS 2108

UNIT TITLE: INTRODUCTION TO SOIL SCIENCE

DATE: 22ND APRIL 2019

TIME: 9:00 AM – 11:00 AM

INSTRUCTIONS:

- Answer question **ONE (compulsory)** and any other **TWO** questions

QUESTION ONE

- (a) Define the following terms as used in soil science (**5 Marks**)
- i) Soil
 - ii) Soil profile
 - iii) Soil structure
 - iv) Chemical weathering
 - v) Physical weathering
- (b) Discuss the importance of soil. (6 Marks)
- (c) During the process of soil formation; **three** important processes take place. With relevant examples outline these processes (6 Marks)
- (d) Mineral soils consist of four major components. Name these components and show their percentage composition in soils with optimum properties for crops/plant growth. (6Marks)
- (e) Outline the sources of soil acidity (4Marks)
- (f) Name the **three** groups rocks. (3Marks)

QUESTION TWO

Explain how each of the stated factors influences soil formation:

- (a) Climate (4Marks)
- (b) Living organism (4Marks)
- (c) Parental materials (4Marks)
- (d) Topography (4Marks)
- (e) Time (4Marks)

QUESTION THREE

- (a) Discuss the importance of soil water (4Marks)
- (b) What do you understand by cation exchange capacity(C.EC) (2Marks)
- (c) Name three groups of materials that are used as liming materials (3Marks)
- (d) Outline the factors that determine the amount of liming material to be used(4Marks)

- (e) With relevant examples explain various methods of soil conservation (7Marks)

QUESTION FOUR

- (a) Explain the following terminologies as used in soil water (10Marks)

- i) Saturation
- ii) Field capacity
- iii) Oven dryness
- iv) Gravitational water
- v) Capillary water

- a) Which of the following limestones will ultimately neutralize most acidity in the soil? (10Marks)

- i) 32% Cao
- ii) 15% Mgo
- iii) C.E.C of 97%

QUESTION FIVE

- (a) Discuss the importance of soil sampling (5Marks)
(b) Outline the procedure of carrying out soil sampling (15Marks)