



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

DECEMBER SESSION EXAMINATION FOR

BACHELOR OF EDUCATION

KRM 401: GENERAL SOIL MANAGEMENT

DATE: SCHOOL BASED

TIME:

INSTRUCTIONS:

Answer ALL questions in section A and ANY TWO questions in section B

SECTION A: 30 MARKS (COMPULSORY)

QUESTION ONE (30 MARKS)

- a) Explain the following terms
 - i. Calcification (2 marks)
 - ii. Calcareous soils (2 marks)
- b) Explain three different soil water regimes (6 marks)
- c) With aid of examples describe the four basic soil forming processes (4 marks)
- d) Loss of soil materials leads to formation of different types of soil. Explain three ways such materials can be lost (6 marks)
- e) Describe three types of salt affected soils (6 marks)
- f) A soil profile examination in Kakamega forest showed that the top soil was rich in soil organic matter. Describe any two possible organic layers which could have been observed (4 marks)

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

- a) Discuss five soil management measures which should be done to manage soil compaction (10 marks)
- b) Explain five factors which influence the water holding capacity of a soil (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain five factors affecting soil aggregate stability (10 marks)
- b) Discuss five reasons which can lead to a decrease in soil organic matter (10 marks)

QUESTION FOUR (20 MARKS)

- a) Plant growth and yields vary with different soils. Discuss five soil factors affecting plant growth (10 marks)
- b) Discuss five soil physical properties (10 marks)

QUESTION FIVE (20 MARKS)

- a) Explain five threats to soil organisms (10 marks)
- b) Discuss five soil formation factors. (10 marks)