



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
FOURTH YEAR SECOND SEMESTER**

**SCHOOL OF TOURISM AND NATURAL
RESOURCE MANAGEMENT
BACHELOR OF ENVIRONMENTAL BIOLOGY
AND HEALTH**

COURSE CODE: EPM 415

**COURSE TITLE: SOILS IN ENVIRONMENTAL
PLANNING AND MANAGEMENT**

DATE: 23RD APRIL 2018

TIME: 8.30A.M-10.30AM

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section **A** and any other three in section **B**

This paper consists of 2 printed pages. Please turn over.

SECTION A

Answer all the questions in this section (25 marks)

1. Define the following terms
 - i) Soil profile
 - ii) Soil texture
 - iii) Sedimentary rocks
 - iv) Weathering
 - v) Soil water

(5 marks)
2. a) The practice of applying agricultural lime to manage acidity in soils is increasingly being advocated, particularly in western part of Kenya. In relation to this:
 - i) Define soil acidity and explain its sources in soil **(4 marks)**
 - ii) Describe several ways of correcting soil acidity **(3 marks)**
 - iii) What other benefits can be obtained by liming acid soils **(3 marks)**
3. a) Discuss two physical, two chemical and two biological soil properties that influence plant growth and productivity **(6 marks)**
b) Describe the four components of the soil **(4 marks)**

SECTION B

Answer any 3 (THREE) questions (45 marks)

4. Discuss land and water contaminants, their sources, effects, control measures and remedies **(20 marks)**
5. a) Discuss 5 fundamental principles of soil management **(10 marks)**
b) Discuss the three main processes involved in soil formation from parent materials. **(10 marks)**
6. a) Describe any four types of soil survey commonly undertaken **(4 marks)**
b) Discuss the principle purposes of aerial photography in soil survey **(6 marks)**
c) Discuss the 4 major soil components and give their percentages **(4 marks)**
d) Describe basic procedures for soil sampling **(6 marks)**
7. a) Discuss the physical transport mechanisms giving examples where possible **(10 marks)**
b) Discuss the sources of heavy metals and how they can be removed from the soil and other control factors **(10 marks)**

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