MAASAI MARAUNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER

SCHOOL OF TOURISM AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL STUDIES GEOGRAPHY AND AGRICULTURE

BACHELOR ENVIRONMENTAL EARTH SCIENCES

COURSE CODE: **EES 2226**

COURSE TITLE: **SOIL GENESIS AND CLASSIFICATION**

DATE: 07/12/2018 **TIME:8.30-10.30AM**

INSTRUCTIONS TO CANDIDATES

INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A (30 MARKS) AND ANY FOUR IN SECTION B (40 MARKS)

SECTION A: ANSWER ALL QUESTIONS (25 MARKS)

1. Distinguish between the following terms:
   a. Soil versus Solum **(2 mk)**
   b. Elluviation versus Illuviation **(2 mk)**
   c. General-purpose vs Special-purpose classification **(2 mk)**
   d. Lateral Gains versus leaching **(2 mk)**

2. Briefly outline the distinguishing characteristics of any three major soil types **(4 mk)**

3. Using illustration as appropriate, write short notes on
   a. Subsurface vs surface diagnostic horizon **(2 mk)**
   b. Soil Profile vs Soil Horizon **(2 mk)**
   c. Soil Pedon **(2 mk)**

4. Using relevant examples, explain the following characteristics and process associated with soils:
   a. Drainage and permeability **(2 mk)**
   b. Soil Texture and Soil Structure **(2 mk)**
   c. Particle Density and Bulk Density **(2 mk)**
   d. Porosity and Specific Surface **(1 mk)**

SECTION B: ANSWER ANY THREE QUESTIONS (45 MARKS)

5. For you to succeed as a professional in your chosen field, being knowledgeable on matters relating to soil science is essential. **Discuss.** **(15 mk)**

6. Using illustrations as appropriate, discuss in sufficient details the five (5) factors that influence soil formation. **(15 mk)**

7. Discuss how the interaction between the diferent spheres results in the genesis of the pedosphere. **(15 mk)**

8. In sufficient details discuss the three weathering process. **(15 mks)**

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