



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY XAMINATIONS  
2023/2024 ACADEMIC YEAR  
SECOND YEAR FIRST SEMESTER**

**SCHOOL OF NATURAL RESOURCES,  
ENVIRONMENTAL STUDIES AND  
AGRICULTURE  
BACHELOR OF SCENCE IN WILDLIFE  
MAANGEMENT**

**COURSE CODE: ESC 2122-1  
COURSE TITLE: FUNDAMENTALS OF  
GEOSPATIALTECHNIQUES**

**DATE: 15<sup>TH</sup> DECEMBER, 2023**

**TIME: 1100-1300 HOURS**

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## **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 (20 MARKS)**

- a) Distinguish between the **any three (3)** of the following terms:
- i. Hydrolysis versus Hydration **(2 Marks)**
  - ii. Elluviation versus Illuviation **(2 Marks)**
  - iii. Aeolian versus Colluvial deposits **(2 Marks)**
  - iv. Transformation versus Translocation **(2 Marks)**
- b) Using illustration as appropriate, write short notes on **any two (2)** of the following
- i. Lithochromic vs Pedochromic **(2 Marks)**
  - ii. Capillary versus Hygroscopic Water **(2 Marks)**
  - iii. Soil Pedon **(2 Marks)**
- c) Using relevant examples, explain the **any three (3)** following characteristics and process associated with soils:
- i. Drainage and permeability **(2 Marks)**
  - ii. Particle Density and Bulk Density **(2 Marks)**
  - iii. Porosity and Specific Surface **(2 Marks)**
  - iv. Flocculation versus Aggregation **(2 Marks)**
- D. Briefly describe four (4) factors that affect soil structure **(4 Marks)**

## **SECTION B (30 MARKS)**

2. For you to succeed as a professional in your chosen field, being knowledgeable on matters relating to soil science is essential. **Discuss.** **(10 Marks)**
3. Using illustrations as appropriate, discuss in sufficient details the five (5) factors that influence soil formation. **(10 Marks)**
4. In sufficient details discuss the importance of water and how it moves in the soil **(10 Marks)**
5. Discuss in sufficient details five Factors that affect the distribution, activity and population of Soil Microorganisms **(10 Marks)**

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