



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**SECOND YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR  
THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL AND  
EXTENSION EDUCATION**

**2021/2022 ACADEMIC YEAR**

**REGULAR**

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**COURSE CODE: APB 1205**

**COURSE TITLE: Soil Survey, Classification and Land Evaluation**

**EXAM VENUE:**

**STREAM: BSc. Agricultural and Extension  
Education.**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in section A and ANY other 2 Questions in section B.**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**SECTION A [30 MARKS]**

**Answer ALL questions from this Section.**

1. Discuss each of the following Pedogenic processes. **(6 Marks)**
  - a) Laterization
  - b) Calcification
  - c) Salinization
2. Give a description of the following pedological features of soils. **(4 Marks)**
  - a) Fragipan
  - b) Slickensides
  - c) Plinthite
  - d) Duripan
3. Give the morphological characteristics for each of the following horizon designations. **(4 Marks)**
  - a) Bhg
  - b) Ckm
  - c) Oip
  - d) Bsg
4. Explain the following soil forming processes. **(8 Marks)**
  - a) Oxido-reduction processes
  - b) Swelling and shrinking processes
5. Give a description of the following soil subgroup categories. **(4 Marks)**
  - a) Calcic Rhodoxeralf
  - b) Natric Paleudults
6. Outline the distinctive features of the following diagnostic endopedons. **(4 Marks)**
  - a) Argillic horizon
  - b) Cambic horizon
  - c) Albic horizon
  - d) Calcic horizon

**SECTION B [40 MARKS]**

**Answer ANY TWO questions from this Section.**

7.
  - a) Discuss the objectives of surveying. **(10 Marks)**
  - b) Discuss FIVE types of mapping units. **(10 Marks)**
8. Discuss FIVE main classes of soil moisture regime. **(20 Marks)**
9. Discuss the different categories of soil classification as outlined in the USDA classification system. **(20 Marks)**