



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

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

**SECOND YEAR RESIT EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN SOIL SCIENCE AND BACHELOR OF
SCIENCE IN AGRICULTURAL AND EXTENSION EDUCATION**

2019/2020 ACADEMIC YEAR

REGULAR

COURSE CODE: ALS 3213

COURSE TITLE: Soil Survey, Classification and Land Evaluation

EXAM VENUE:

**STREAMS: BSc. Soil Science and BSc.
Agricultural and Extension Education.**

DATE:

EXAM SESSION:

TIME: 2 HOURS

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 the properties of each of the Master Horizons within a soil profile. **(5 Marks)**
2. Outline the main categories of soil classification from the highest to the lowest level. **(5 Marks)**
3. Outline the properties of each of the following diagnostic horizons. **(6 Marks)**
 - a) Mollic epipedon
 - b) Histic epipedon
 - c) Ochric epipedon
4. Give a description of the following pedological features of soils. **(6 Marks)**
 - a) Plinthite
 - b) Slickensides
 - c) Duripan
5. Define the following terms as used in soil survey. **(3 Marks)**
 - a) A mapping unit
 - b) Purity
 - c) Land quality
6. Outline FIVE types of mapping units. **(5 Marks)**

SECTION B [40 MARKS]

Answer ANY TWO questions from this Section.

7.
 - a) Discuss the main objectives of land evaluation. **(10 Marks)**
 - b) Outline the main stages involved in land evaluation. **(10 Marks)**
8. Discuss FIVE main classes of soil moisture regimes. **(20 Marks)**
9. Discuss FIVE main principles fundamental to the approach and methods employed in land evaluation. **(20 Marks)**