



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**THIRD YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF BACHELOR IN ANIMAL SCIENCE**

**2024/2025 ACADEMIC YEAR
REGULAR**

COURSE CODE: APB 1303

COURSE TITLE: Soil microbial ecology

EXAM VENUE:

STREAM: BSc. Animal Science

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 in this section

- 1. (a) Explain the role of organic matters in the soil. (6 marks)**

- (b) Describe two non-biological nitrogen fixation process. (6 marks)
- (c) Explain role of bacteria in the soil. (6 marks)
- (d) Explain briefly different classes of fungi found in the soil. (6 marks)
- (e) Describe the role of soil algae. (6 marks)

SECTION B (40 MARKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION

- 1) Discuss biodegradation in the soil. (20 marks)
- 2) Describe the biological processes of nitrification and denitrification in nitrogen cycle. (20 marks)
- 3) Discuss physical and chemical factors that affect diversity and abundance of soil micro-organisms. (20 marks)