



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES
THIRD YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE
OF BACHELOR OF SCIENCE SOIL SCIENCE
3RD YEAR 1ST SEMESTER 2017/2018 ACADEMIC YEAR
REGULAR

COURSE CODE ALS 3312

COURSE TITLE: SOIL MICROBIAL ECOLOGY

EXAM VENUE: LR 8

STREAM: SOIL SCIENCE

DATE: 12/12/17

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2HOURS

INSTRUCTIONS

- 1. Answer ALL questions in section A and ANY other two questions in section B**
- 2. Candidates are advised to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A 30 marks

1. Define the following terms.

- (a) Soil biology. (2 marks)
- (b) Soil ecology (2marks)
- (c) Nitrogen fixers (2 marks)

2. Discuss the importance of soil micro – organisms. (10 marks)

3. Explain the following terms

- (a) bioremediation (3 marks)
- (b) soil mycorrhiza (3 marks)

4. Outline the functions of soil actinomycetes (8 marks)

SECTION B 40 marks Answer any two questions.

- 5. Give a detailed account on classification of soil bacteria (20 marks)
- 6. Describe the nitrogen cycle using well illustrated diagrams (20 marks)
- 7. Soil living organisms live in associations with other living organisms in the same ecosystem. (20 marks)
 - (a) Define mutualism
 - (b) Explain two types of mutualism
 - (c) Explain the mutualistic relationship of the nitrogen fixing bacteria and legumes.