



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

**FOURTH YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF BACHELOR OF SCIENCE IN SOIL SCIENCE
4TH YEAR 1ST SEMESTER 2017/2018 ACADEMIC YEAR**

REGULAR

COURSE CODE: ALS 3417

COURSE TITLE: SOIL QUALITY AND FOOD SECURITY

EXAM VENUE:LR 11

STREAMS: BSc. Horticulture

DATE: 21/12/17

EXAM SESSION: 9.00 – 11.00 AM

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

Instructions: Answer all questions

1. Comment on the three food system outcomes 6 marks
2. Describe the following terms 5 marks
 - i. climate
 - ii. weather
 - iii. Acclimation
 - iv. Adaptation
 - v. mitigation
3. Describe the chemical soil deterioration highlighting how it influences crop productivity 10 marks
4. Explain the following terms 4 marks
 - i. Soil quality
 - ii. Food security
5. Describe the economic importance of human activities on soil quality 5 marks

Section B: 40 Marks

Instructions: Answer any two Questions

6. Discuss influence of global warming on lithosphere and biosphere climate systems 20 marks
7. Discuss Potential impacts of climate change on food systems and food security, and possible adaptive responses through Increase in global mean temperatures 20 marks
8. Discuss the relationship between soil fertility and degradation. 20 marks