



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES
FOURTH YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF BACHELOR OF SCIENCE SOIL SCIENCE
2017/2018 ACADEMIC YEAR
REGULAR**

COURSE CODE ALS 3425

COURSE TITLE: LAND DEGRADATION AND MANAGEMENT OF PROBLEMATIC SOILS

EXAM VENUE:

STREAM: BSc SOIL SCIENCE

DATE:

EXAM SESSION

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]

Answer ALL questions in this Section.

- 1 (a) Define land degradation. (2 marks)
- (b) List three chemical indicators of soil quality. (3 marks)
- (c) What is soil resilience. (2 marks)
2. (a) Identify four causes of soil compaction. (4 marks)
- (b) Define the terms.
- (i) Acidification. (2 marks)
- (ii) GIS (2 marks)
- 3(a) Describe methods used to mitigate effects of soil compaction (6 marks)
4. (b) Give a concise account on the implication of soil degradation process. (5 marks)
5. What are the environmental impacts on quarrying and mining? (4 marks)

SECTION B 40 MARKS

ANSWER ANY TWO QUESTIONS IN THIS SECTION

5. Discuss ways through which degraded soils can be managed (20 marks)
6. (a) Define the soil loss equation (7 marks)
- (b) Explain how land degradation can be assessed using satellite remote sensing and GIS. (7 marks)
- (c) Discuss the causes and indicators of desertification (6 marks)
7. (a) Describe the influence of human activities on the environment. (10 marks)
- (b) Write short notes on the following.
- (i) Land use cover detection analysis. (5 marks)
- (ii) Management aspect for soil quality (5 marks)