



**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 OF SCIENCE IN SOIL SCIENCE
2016/2017 ACADEMIC YEAR**

REGULAR

COURSE CODE: ALS 3325

COURSE TITLE: Soil Contamination and remediation

EXAM VENUE:

STREAM: BSc. (Soil Science)

DATE:

EXAM SESSION: April 2107

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. Define the following terms with examples:
 - a. Environment (2 Marks)
 - b. Contaminant (2 Marks)
 - c. Point source contamination (2 Marks)
 - d. Biodegradation (2 Marks)
 - e. detoxification (2 Marks)
2. Describe the fate of contaminants in the soil (10 Marks)
3. List at least 5 classifications of potential soil contaminants (5 Marks)
4. Outline the soil conditions that favour the biodegradation of soil contaminants by soil microorganisms (5 Marks)

SECTION B [40 MARKS]

Answer ANY TWO questions from this Section.

5. Discuss the transport mechanisms of contaminants in the soil and their loss pathways (20 Marks)
6.
 - a). What is meant by the term phytoremediation (3 Marks)
 - b). Discuss the different types of phytoremediation mechanisms (12 Marks)
 - c). Define the term waste disposal and list 4 methods of waste disposal (5 Marks)
7. Discuss the detrimental effects of agrochemicals to the environment (20 Marks)