



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FIRST YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE  
OF BACHELOR OF SCIENCE IN SOIL SCIENCE**

**2017/2018 ACADEMIC YEAR**

**REGULAR**

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**COURSE CODE: ALS 3122**

**COURSE TITLE: LAND AND LIFE**

**EXAM VENUE:**

**STREAM: BSc. (Soil Science)**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**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:
  - a. Sustainable development (2 Marks)
  - b. Ecosystem (2 Marks)
  - c. Environmental degradation (2 Marks)
  
2. Differentiate between the following
  - a. Simple and Complex organisms (2 Marks)
  - b. Landscape and Biome (2 Marks)
  - c. Conditions and Resources (2 Marks)
  
3. Explain the following characteristics of sustainable development
  - a. Equitable (2Marks)
  - b. Viable (2Marks)
  - c. Bearable (2Marks)
  
4. Describe the five factors that must be considered in order to achieve sustainability. (5Marks)
  
5. Explain three roles of organisms in soil formation (7Marks)

**SECTION B [40 MARKS]**

**Answer ANY TWO questions from this Section.**

6. Discuss how the following human activities affect soil quality (20 Marks)
  - a. Farming,
  - b. Mining,
  - c. Building and construction
  - d. Soil protection and conservation.
  
7. Increase in human population in part due to improved healthcare has led to; increased food demand and natural resources. This has resulted in expansion of agriculture and other human activities. Discuss challenges to ecosystem stewardship due to increase in Global population. (20 Marks)
  
8. Discuss citing examples how the following lead to environmental degradation: (20 Marks)
  - a. Water pollution.
  - b. Urban development.
  - c. Deforestation and soil degradation.
  - d. Population growth.