



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF SPATIAL PLANNING AND NATURAL RESOURCES MANAGEMENT
UNIVERSITY EXAMINATION FOR DIPLOMA IN ENVIRONMENTAL SCIENCE**

**2nd Year 1st SEMESTER 2024/2025 ACADEMIC YEAR
MAIN REGULAR COURSE CODE: PDS 2211**

**COURSE TITLE: ECOLOGICAL MONITORING AND
ASSESSMENT**

EXAM VENUE:

STREAM: Dipl. in Environmental Science

DATE:

EXAM SESSION: Sept- Dec 2024

TIME: 2.00 HOURS

Instructions:

- i. Answer questions **one** and any other **three**.
- ii. Candidates are advised not to write on the question paper.
- iii. Candidates must hand in their answer booklets to the invigilator while in the examination room.

SECTION A QUESTION ONE: 40 marks

- i. Define Ecological monitoring and assessment (2 marks)
- ii. Discuss any **THREE** types of Ecological monitoring (6 marks)
- iii. State **FIVE** importance of Ecological monitoring and assessment (4 marks)
- iv. Differentiate between Biotic components and Abiotic components. (4 marks)
- v. Explain any **THREE** (3) types Ecosystems (6 marks)
- vi. Explain **TWO** Importance of Accurate Ecosystem Identification in Monitoring (4 marks)
- vii. Explain any **TWO** Methods for Identifying Ecosystems in Ecological Monitoring (4 Marks)
- viii. Differentiate between Ecology and Ecological niche (4 Marks)

(ix) Explain any **THREE** Applications of Environmental Parameter Monitoring (6 marks)

SECTION B: 60 Marks

Answer any **THREE** questions. Each earns 20 marks.

QUESTION TWO

- a) Discuss the various methods used to assess the health and biodiversity of an ecosystem. (10 marks)
- b) Identify the main environmental parameters used in ecological monitoring (10 marks)

QUESTION THREE

- a) Explain the process of monitoring the distribution of natural resources in a given ecosystem (10 marks)
- b) Describe the ecological restoration process for a degraded habitat (10 marks)

QUESTION FOUR

- a) Discuss the role of remote sensing and Geographic Information Systems (GIS) in ecological monitoring (10 marks)
- b) Identify the main environmental parameters used in ecological monitoring (10 marks)

QUESTION FIVE

- a) Examine the significance of indicator species in ecological monitoring (10 marks)
- b) Describe the process of developing an ecological monitoring program for a protected area. (10 marks)

QUESTION SIX

- a) Discuss the challenges associated with monitoring and assessing biodiversity in degraded ecosystems (10 marks)
- b) Examine strategies to overcome challenges associated with monitoring and assessing biodiversity in degraded ecosystems (10marks)