LAIKIPIA UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST SEMESTER 2025/2026 ACADEMIC YEAR

THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

ENSC 311: INDUSTRIAL MANAGEMENT AND ENVIRONMENT

STREAM: R ***TIME: 2 HRS***

DAY: THURSDAY [14.30 – 16.30 P.M] ***DATE: 05/02/2026***

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS: Answer question ONE and ANY two other questions

QUESTION ONE (30 MARKS)

a) Explain the concept of *sustainable industrial development* and illustrate it using a realistic Kenyan industrial example. **(3 Marks)**

b) A food-processing industry wants to reduce waste generation. Suggest **THREE** cleaner-production strategies it can adopt. **(3 Marks)**

c) Evaluate why companies sometimes engage in greenwashing, and how regulators can identify misleading environmental claims. **(3 Marks)**

d) Analyse the role of public relations in restoring trust after a pollution event involving a local factory. **(3 Marks)**

e) Explain why industrialization is considered both an engine of economic development and a driver of environmental degradation. **(3 Marks)**

f) Describe the precautionary principle and show how it could influence a proposed mining project. **(3 Marks)**

g) A multinational company is expanding into East Africa. Identify three environmental management priorities that it must address before construction begins. **(3 Marks)**

h) Explain how poor job design can create health and safety risks in high-intensity production environments. **(3 Marks)**

i) Propose **THREE** essential elements of a post-disaster environmental rehabilitation plan for an industrial accident. **(3 Marks)**

j) Analyse how market power can influence a firm's environmental performance, using either a monopoly or an oligopoly structure. **(3 Marks)**

QUESTION TWO (20 MARKS)

Critically analyse how EMCA (1999), OSHA, and Basel Convention collectively influence the management of hazardous waste in Kenyan industries. **(20 Marks)**

QUESTION THREE (20 MARKS)

a) Develop an emergency response plan for a chemical spill in a medium-sized manufacturing firm. Highlight key actions at each stage. **(10 Marks)**

b) Discuss the challenges and opportunities of implementing workplace environmental monitoring techniques (air quality, noise, heat stress) in Kenyan industries. **(10 Marks)**

QUESTION FOUR (20 MARKS)

a) Critically evaluate the role of environmental ethics in guiding corporate behaviour, especially in extractive or manufacturing sectors. **(10 Marks)**

b) Discuss how CSR projects in Kenya can contribute to both community development and industrial competitiveness, using a specific firm example. **(10 Marks)**

QUESTION FIVE (20 MARKS)

a) Assess how green financing tools can support industrial transition towards low-carbon operations.

(10 Marks)

b) A metal-processing industry intends to access international markets. Explain how ISO 14001 certification can improve regulatory compliance and global competitiveness. **(10 Marks)**