INTERNATIONAL UNIVERSITY OF EAST AFRICA
'Learning to Succeed'

# FACULTY OF SCIENCE AND TECHNOLOGY

## END OF SEMESTER EXAMINATIONS - DECEMBER 2025

**PROGRAMME: BSEM**
**YEAR/SEM: YEAR 3/SEMESTER 1**
**COURSE CODE: BSE3102**
**NAME: EIA & ENVIRONMENTAL AUDITING**

**DATE:**
**TIME:**

**INSTRUCTIONS TO CANDIDATES:**

## SECTION A

*Answer all questions in this section (compulsory)*

**Question 1:**

The Government of Uganda, in partnership with a private developer, proposes to establish the Nalubaale Industrial Park along the Nile River in Jinja District. The project will host medium- and large-scale industries including food processing plants, a textile factory, a metal fabrication plant, and a packaging facility. The project site covers 500 hectares, most of which is currently agricultural land with patches of natural vegetation, wetlands, and a nearby community settlement of approximately 1,500 people.

Preliminary field assessments indicate that:

- The wetland filters wastewater flowing into the Nile.
- The area hosts several bird species, including two that are regionally threatened.
- Local communities depend on the land for crops, fishing, and small-scale livestock keeping.
- Noise, dust, and traffic are expected to increase during construction.
- Hazardous wastes such as oils, solvents, and metal scrap will be generated.

The developer has submitted a Project Brief and seeks NEMA's approval to begin full construction.

Answer the following questions:

a) Identify and describe five key environmental and social components that should be assessed during the EIA study of this project. (5 marks)

b) Discuss the potential positive impacts of the industrial park on the local community and regional economy. (5 marks)

c) Identify and explain five major negative environmental impacts likely to arise from the project during both construction and operation phases. (5 marks)

d) Propose appropriate impact prediction and assessment methods that should be used in this EIA. (5 marks)

e) Outline five mitigation measures that should be included in the Environmental Management Plan (EMP). (5 marks)

f) Explain the importance of public participation in this EIA process and describe effective methods for engaging stakeholders. (5 marks)

g) Assess the role of environmental monitoring once the project becomes operational. What should be monitored and why? (5 marks)

h) NEMA must make a decision on whether to approve the project. Explain the key factors that should guide this decision. (5 marks)

**Question 2:**

## Proposed Development of the Karuma–Gulu Highway Expansion Project

The Government of Uganda plans to upgrade the Karuma–Gulu Highway into a dual carriage highway to improve transportation, trade, and regional connectivity. The project covers approximately 80 km and will involve road widening, construction of new bridges, blasting through rocky terrain, and establishment of workers' camps.

A preliminary scoping study reveals that:

- The project area includes community farmlands, patches of forest, and roadside wetlands.
- Several villages (about 900 households) lie within 50 metres of the proposed road.
- The area hosts wildlife species that migrate seasonally across the road corridor.
- Construction will require large quantities of gravel, sand, and water, with quarrying expected.
- Dust, noise, solid waste, oil spills, and vegetation clearing are major risks.
- Road accidents involving people and animals have historically occurred in the area.
- Communities rely on the wetlands for fishing, papyrus harvesting, and domestic water.
- Local leaders request compensation and assurance that their livelihoods will not be affected.

The project must undergo a detailed Environmental Impact Assessment (EIA) before approval.

### Questions:

a) Identify five key baseline environmental and social parameters that should be assessed during the EIA for this road project. (5 marks)

b) Discuss the potential positive impacts of the highway expansion on socio-economic development. (5 marks)

c) Identify and explain five significant negative environmental impacts expected during construction and operation of the highway. (5 marks)

d) Propose suitable impact prediction and assessment tools for evaluating the significance of project impacts. (5 marks)

e) Recommend five mitigation measures that should be included in the Environmental Management Plan (EMP). (5 marks)

f) Describe effective methods for stakeholder engagement during this EIA and explain why

community involvement is essential. (5 marks)

g) Outline the environmental monitoring programme, including at least four parameters that should be monitored and why. (5 marks)

h) The project must undergo EIA review and approval. Explain the key factors NEMA should consider before granting approval. (5 marks)

## SECTION B

*Answer only three (3) questions from this section*

**Question 1:**

a) Describe the potential environmental impacts of a large-scale urban development project (soap manufacturing) (8 marks)

b) Analyze how each impact may affect the surrounding ecosystem and community. (6 marks)

c) Propose recommendations for corrective actions and mitigation measures. (6 marks)

**Question 2:**

a) Benefits of stakeholder involvement in EIA (10 marks)

b) What are the costs of non-involvement of stakeholders in the EIA process (10 marks)

**Question 3:**

Assuming you are carrying out an EIA for a road construction project;

a) Discuss the EIA guiding principles you would follow while executing the project. (10 marks)

b) With the aid of an illustration, discuss the key steps in Environmental Impact Assessment (EIA) process. (10 marks)

**Question 4:**

Imagine you are conducting an Environmental Audit for an industrial facility with a history of environmental compliance issues.

a) Discuss the key areas you would investigate during the audit (10 marks).

b) Potential sources of pollution, waste management practices, and regulatory compliance (10 marks).

**Question 5:**

a) Discuss the challenges that hinder proper legislation of EIA in your country (10 marks)

b) As an EIA expert, how can you overcome the above challenges? (10 marks)

**Question 6:**

a) Explain the fundamental purpose of the Environmental Impact Assessment (EIA) process (4 marks)

b) Outline four key principles that govern its effective application in project development. (8 Marks)

- c) Differentiate clearly between the terms Scoping and Screening within the EIA process, highlighting the objective and output of each stage. (8 Marks)

**Question 7:**

- a) Describe the primary objectives of conducting an Environmental Audit (EA) for an existing industrial facility (8 marks)

  b) Explain how an Environmental Audit differs from continuous environmental monitoring. (4 Marks)

- c) Distinguish between a Compliance Audit and a Management Systems Audit (e.g., ISO 14001), providing a relevant example of when each type would be most appropriate. (8 Marks)

**Question 8:**

- a) Justify the importance of Public Participation as a mandatory step in the EIA process. (10 marks)

  b) Explain how public input can enhance the quality and legitimacy of the final EIA decision. (4 Marks)

- b) Describe two common methods used to engage the public and stakeholders during an EIA, and discuss one major challenge associated with effective public consultation. (6 Marks)

**Question 9:**

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  a) Analyze the strengths and weaknesses of the checklist method for predicting and evaluating potential environmental impacts. ( 8 Marks)

- b) Explain the concept of Impact Significance in an EIA study. (4 marks)

  c) Detail the criteria and factors typically considered by EIA practitioners to assign a level of significance (e.g., major, moderate, minor) to an identified environmental impact. (8 Marks)

**Question 10:**

- a) Identify and discuss five significant limitations or challenges commonly faced by EIA practitioners during the assessment process. (10 Marks)
- b) Explain why assessing cumulative impacts is methodologically challenging and provide an illustrative example. (10 Marks)

**Question 11:**

- a) Discuss the role of National Environmental Legislation and Regulatory Bodies in enforcing the EIA process and ensuring compliance by developers. (10 Marks)
- b) Discuss the ethical and legal obligations a country has when a project may cause significant environmental impacts in a neighboring country. (10 Marks)

**Question 12:**

a) Discuss the key threats to environmental resources (10 marks)

b) Identify and justify the projects where an environmental impact assessment is mandatory. (10 marks)