

UNIVERSITY OF FORT HARE

ENVIRONMENTAL IMPACT
ASSESSMENT
GEG 723/ GEG 723E

DEGREE EXAMINATIONS

NOVEMBER

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Time: 4 Hours
Subject: GEG 723/GEG723E
Marks: 200

This paper consists of 6 pages including the
cover page

Internal Examiners
Examiners

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External

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INSTRUCTIONS

Answer four questions.

Start each question on a new page.

Question 1

(ENVIRONMENTAL IMPACT ASSESSMENT)

Below is a brief description of the EIA for a proposed Coal Mining Project.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR A MINING RIGHT ON VARIOUS PROPERTIES TO BE KNOWN AS LEFA COLLIERY SITUATED IN THE MAGISTERAL DISTRICT OF SASOLBURG IN THE FREE STATE PROVINCE.

Comprehensively complete the columns on the table below for each of the activities and associated environmental aspects. Draw up and fill in the table by stating the potential impact and mitigation type (measures) that you have identified for the construction phase of the proposed project on agricultural land.

Assessment of Potential Impacts During the Construction Phase			
Activity	Environmental Aspect	Potential Impact	Mitigation Type (Measures)
Construction of access roads and haul roads	Soil		
	Vegetation		
	Surface Water		
	Air quality		
	Background noise levels		
Stripping and stockpiling of topsoil	Soils		
	Vegetation		
	Land Capability		
	Surface Water		
	Air Quality		
	Background noise levels		
Construction of the pollution dam and sewage treatment dam	Soils		
	Vegetation		
	Land use		
	Surface water		
	Surface water quality		

	Air Quality		
	Background		
	Noise levels		

[50]

Question 2 (ENVIRONMENTAL MONITORING – ISO 14001)

You are conducting an environmental monitoring exercise on an office complex construction project. Is your project meeting the requirements set out in each question. Give the project a title and scope.

NUMBER	REQUIREMENT
1.	Show that your project will achieve more use of renewable energy sources for the building concerned.
2.	How will you make the construction carbon neutral or even with a positive CO ₂ Balance?
3.	How will you meet above standard energy efficiency standards?
4.	Will the project support private owners to make their buildings more energy efficient? How?
5.	Will audits be allowed? Which audits will be allowed?
6.	Is the project using brown-field space instead of greenfield space? Why?
7.	Is the project climate change proof in terms of flood risk? How is it flood proof?
8.	Will the project help to reduce the urban sprawl? What are the advantages of reducing the sprawl?
9.	How is the project linked to a sustainable transport concept instead of leading to more CO ₂ ?
10.	What demographic change impacts will this project have (less populations in some regions, more urban population, older population, etc

[5x10=50]

Question 3**(ASPECTS OF ENVIRONMENTAL LEGISLATION)**

1. What are the key pieces of environmental legislation and the regulatory authorities in your jurisdiction? [5]
2. To what extent are environmental requirements enforced by regulators in your jurisdiction? [5]
3. To what extent are environmental non-governmental organisations (NGOs) and other pressure groups active in your country? [5]
4. Is there an integrated permitting regime or are there separate environmental regimes for different types of emissions. What is the framework for the integrated permitting regime? [10]
5. What is the regulatory regime for water pollution (whether part of an integrated regime or separate)? What are its components? [10]
6. What is the regulatory regime for air pollution (whether part of an integrated regime or separate)? [5]
7. Are there any requirements to carry out environmental impact assessments (EIAs) for certain types of projects? [5]
8. What is the regulatory regime for waste? Briefly explain. [5]
9. Can an individual bring legal action against a polluter, owner or occupier? Explain. [5]

Question 4**(SOCIAL IMPACT ASSESSMENT)**

Conduct a social impact assessment for the Xolobeni Mining Sands

Project by showing how each of the following criteria will be impacted.

- People's way of life – how they work, play and interact with one another on a daily basis;
- Their culture – their shared beliefs, customs, values and language or dialect;
- Their community – its cohesion, stability, character, services and facilities;

- Their political systems – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place and the resources provided for this purpose;
- Their environment – the quality of the air and water that people use; the availability and quality of the food that they eat; the level of hazard or risk, dust and noise which they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources;
- Their health and well-being – where health is understood as a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity;
- Their personal and property rights – particularly whether people are economically affected, or experience personal disadvantage, which may include a violation of their civil rights; and
- Their fears and aspirations – their perceptions about their safety; fears about the future of the community; and their aspirations for their future and the future of their children.

[50]

Question 5

(ENVIRONMENTAL INTEGRITY AND ETHICS)

1. Explain "utilitarianism", and very briefly explain what would be relevant to a utilitarian who wanted to evaluate environmental policies. How might the worldviews of dominion and stewardship influence decisions in environmental ethics? Be sure you define each of these terms in your answer. [25]
2. What is the difference between (Paul Taylor)'s biocentrism and eco-centrism? [25]

[50]

Question 6**(GLOBAL ENVIRONMENTAL ISSUES)**

1. Many scientists are concerned about global warming. Research shows that the worldwide increase in temperature is getting worse. Furthermore, global warming seems to be related to levels of pollution in the atmosphere. Discuss the causes of global warming and possible solutions to the problem. [10]
2. Explain how atmospheric warming might affect each of the following: food production, water supplies, forests, biodiversity, sea levels, weather extremes, human health, and developing countries. [40]

[50]

TOTAL: 200