



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

SCHOOL OF AGRICULTURE AND NATURAL RESOURCE SCIENCES

DEPARTMENT OF NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF NATURAL RESOURCES MANAGEMENT	
QUALIFICATION CODE:	LEVEL: 8
COURSE CODE: EMP721S	COURSE NAME: ENVIRONMENTAL MANAGEMENT PRINCIPLES
DATE: JANUARY 2025	
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr Tendai Nzuma
MODERATOR:	Prof Hilton Ndagurwa

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. Examination question paper
2. Answering book
3. Calculator and Ruler

THIS QUESTION PAPER CONSISTS OF 2 PAGES (Excluding this front page)

Question 1: Definitions (20 Marks)

Define the following terms and provide an example for each (2 marks each: 1 for the definition, 1 for the example):

- a. Integrated Environmental Management (IEM)
 - b. Waste Management Hierarchy
 - c. Environmental Management Plan (EMP)
 - d. Public Participation in EIA
 - e. Ecological Restoration
 - f. Ecosystem Functioning
 - g. Biodiversity Impact Assessment (BIA)
 - h. Strategic Environmental Management (SEM)
 - i. Adaptive Management
 - j. Cleaner Production Techniques
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Question 2: Short Answer Questions (20 Marks)

- (a) Explain the role of key stakeholders in the Integrated Environmental Management process in Namibia. (10 Marks)
 - (b) Outline the importance of ecosystem services for the Namibian economy. (10 Marks)
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Question 3: Short Answer Questions (20 Marks)

- (a) What are the key steps involved in the Environmental Management Plan (EMP) process? (10 Marks)
 - (b) How does pollution affect biodiversity in Namibia? Provide examples from terrestrial and aquatic ecosystems. (10 Marks)
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Question 4: Long Answer and Case Study (40 Marks)

Case Study:

A large-scale agricultural project is proposed for development in the Kavango region, which will require clearing forested land. The area is home to several vulnerable species and provides critical ecosystem services such as water purification and carbon sequestration. An EIA has been conducted, and the developers have prepared a Biodiversity Impact Assessment (BIA) and Environmental Management Plan (EMP).

- (a) Discuss the potential environmental impacts of clearing the forested land and how the mitigation hierarchy could be applied to this project. (15 Marks)
 - (b) The project is expected to generate 500 tons of waste from agricultural inputs (fertilizers, pesticides, etc.) annually. Calculate the amount of waste sent to the landfill if 40% is composted, 30% is recycled, and the rest is disposed of. (10 Marks)
 - (c) Evaluate the role of the Biodiversity Impact Assessment (BIA) in ensuring sustainable development in the project area. (15 Marks)
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THE END

TOTAL MARKS: 100