NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF ENVIRONMENTAL SCIENCE

DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT

WETLAND ECOLOGY (EFW 4110)

Main Examination Paper

December 2024

This examination paper consists of 2 pages

Time Allowed:	3 hours
Total Marks:	100
Special Requirements:	None
Examiner's Name:	Dr. J. Maringa
External Examiner:	Prof. E. Chivandi

INSTRUCTIONS

1. Answer **QUESTION 1** and any **THREE** others
2. Each question carries 25 marks

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25
TOTAL	100

1. (a) Describe in detail the major functions of wetland ecosystems. **[16 marks]**

   (b) Explain how wetland ecosystems services can be evaluated for their economic value.
   [9 marks]

2. Discuss the significance of wetland ecosystem in human livelihoods in southern Africa.

3. Describe the role of wetlands in the conservation of biodiversity.

4. (a) Explain how wetlands are:

   (i) Recharged. **[5 marks]**
   (ii) Discharged. **[5 marks]**

   (b) Explain in detail the components of a wetland water budget. **[15 marks]**

5. Critically evaluate the key components and challenges of integrated wetland management in southern Africa. In your response, consider the following aspects:

   (i) Policy and legal frameworks. **[5 marks]**
   (ii) Stakeholder involvement. **[5 marks]**
   (iii) Scientific and traditional ecological knowledge. **[5 marks]**
   (iv) Transboundary cooperation. **[5 marks]**
   (v) Climate change and its impacts. **[5 marks]**

6. International conventions and agreements facilitate the sharing of information on wetlands and collective addressing of related issues.
   (a) Critically examine the roles, strengths, and weaknesses   of the following conventions for wetland protection:

   (i)   the RAMSAR Convention. **[5 marks]**
   (ii)   the African-Eurasian Migratory Waterbird Agreement (AEWA). **[5 marks]**
   (iii)   the Convention on Migratory Species (CMS). **[5 marks]**

   (a) Give an analysis of how Zimbabwe, as a signatory, has benefited from these conventions.
   [10 marks]