

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



FACULTY OF ENVIRONMENTAL SCIENCE

DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT

DIVERSITY OF LIFE (EFW 1102)

Main Examination Paper

December 2024

This examination paper consists of 2 pages

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: NIL
Examiner's Name: Mr M. Mwanza
External Examiner: Prof. E. Chivandi

INSTRUCTIONS

1. Answer **QUESTION ONE** 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) Giving specific examples describe the key diagnostic characteristics of organisms in each of the six kingdoms of living organisms. **[19 marks]**
(b) Comment on the merits and demerits of this six kingdom classification scheme. **[6 marks]**
2. (a) Using named living organism of your choice, classify it using the Linnaean Hierarchy of Classification. **[7 marks]**
(b) Discuss the importance of Biological Classifications in science and conservation of biodiversity on earth. **[18 marks]**
3. Illustrate with named examples, the roles played by the following groups of living organisms in the biosphere:
 - (a) insects. **[8 marks]**
 - (b) birds. **[7 marks]**
 - (c) fungi **[5 marks]**
 - (d) bacteria. **[5 marks]**
4. Insects are the most diverse and successful group of invertebrate animals on earth. Provide the reasons for their success on both land and water. **[25 marks]**
5. (a) Illustrate the typical life cycle of a Bryophyte. **[10 marks]**
(b) Explain why Angiosperms are the most successful group of land-based plants. **[15 marks]**
6. Giving named examples of species, show how the following group of animals are adapted to their living environment.
 - (a) mammals. **[5 marks]**
 - (b) reptiles. **[5 marks]**
 - (c) amphibians. **[5 marks]**
 - (d) birds. **[5 marks]**
 - (e) fish. **[5 marks]**