UGANDA MARTYRS UNIVERSITY
NKOZI

UNIVERSITY EXAMINATION
FACULTY OF SCIENCE

SEMESTER I, 2023/2024

FIRST YEAR EXAMINATION FOR BACHELOR OF SCIENCE WITH EDUCATION

BIO 1103: FORM, STRUCTURE AND CLASSIFICATION OF ORGANISMS

DATE: 14/12/2023
TIME: 2:00-5:00pm
DURATION: 3HRS

Instructions:

1. *Carefully read through ALL the questions before attempting*
2. *Answer all questions in section A, B and any **three** questions from section C*
3. *All Questions in section C carry equal marks*
4. *No names should be written anywhere on the examination booklet.*
5. *Ensure that your Registration number is indicated on all pages of the examination answer booklet.*
6. *Ensure your work is clear and readable. Untidy work shall be penalized*
7. *Any type of examination Malpractice will lead to automatic disqualification*

SECTION A: SHORT ANSWERS (40 MARKS)

Answer all questions in section A. Give short and precise answers to each of the following questions.

1. Explain the difference between radial and bilateral symmetry in animals. (04 marks)
2. Explain how a vertebrate endoskeleton is an advantage in the adaptation to various environments. (04 marks)
3. Explain the role of the cambium layer in the growth of woody plants. (04 marks)
4. Describe how xerophytes are adapted for survive in arid environments. (04 marks)
5. Explain the ecological significance of the different types of nutritional relationships among organisms. (04 marks)
6. Explain the challenges faced by terrestrial animals. (04 marks)
7. Describe differences between invertebrates and vertebrates. (04 marks)
8. Describe the adaptations of plants to life on land. (04 marks)
9. Explain the advantages of seed production in the plant life. (04 marks)
10. Describe the ecological roles of different plant phyla to their ecosystems. (04 marks)

SECTION B: ESSAY QUESTIONS (60 MARKS)

Answer only <u>Three</u> questions from this section.

11. a) Explain how the diverse forms of the animal kingdom contribute to the ecological success of animals. (10 marks)
    b) Compare and contrast the adaptations seen in animals for life in terrestrial and aquatic environments. (10 marks)
12. a) Describe the advantages and limitations associated with vertebrates and invertebrates. (10 marks)
    b) Describe the various adaptations that mammals have evolved for different ecological niches. (10 marks)
13. a) Explain how human activities, such as habitat destruction and climate change, impact the distribution of animal species. (10 marks)
    b) Explain the different adaptations that have occurred in various groups of flying animals. (10 marks)

14. a) Describe the diversity of plant forms, giving examples. (10 marks)

b) Describe the various reproductive strategies employed by plants. (10 marks)

15. a) Explore how human activities, such as deforestation, agriculture, and urbanization, impact plant diversity. (10 marks)

b) Explain how floral adaptations and pollination mechanisms have evolved in response to each other. (10 marks)

END