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**University Examinations 2023/2024**

**FIRST YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF  
BIOCHEMISTRY, BACHELOR OF BIOTECHNOLOGY AND BACHELOR OF  
ENVIRONMENTAL SCIENCES**

**SZL 3100: ECOLOGY BIOANALYSIS**

**DATE: DECEMBER 2023**

**TIME: 2 HOURS**

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**INSTRUCTIONS:** *Answer question **one** and any other **two** questions*

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**QUESTION ONE (30 MARKS)**

- a) Describe the four types of species one is likely to find in an ecosystem (4 marks)
- b) Explain the following terms in succession
- i. Succession (2 marks)
  - ii. Mimicry (2 marks)
  - iii. An ecotone (2 marks)
  - iv. Niche (2 marks)
- c) i. Describe the Harday Weinberg Equilibrium principles (3 marks)
- ii. Outline the 5 rules for Herdey Weinberg’s equilibrium that must be true in a population (5 marks)
- d) Explain the situations where the following ecological pyramids may seem inverted
- i. Pyramid of numbers (3 marks)
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**MUST is ISO 9001:2015 and**



**ISO/IEC 27001:2013 CERTIFIED**

- ii. Pyramid of biomass (3 marks)  
Distinguish among three patterns of population distribution (4 marks)

**QUESTION TWO (20 MARKS)**

- a) Discuss matter cycling in terms of cycles and reservoirs (20 marks)

**QUESTION THREE (20 MARKS)**

- a) Discuss the different interactions of species in the ecosystem (20 marks)

**QUESTION FOUR (20 MARKS)**

- a) Discuss the Hardy Weinberg's principle as used in ecology (20 marks)

