**FACULTY OF LIFE SCIENCES**

**DEPARTMENT OF ANIMAL SCIENCE**

**BACHELOR OF SCIENCE HONOURS DEGREE IN ANIMAL SCIENCE**

**Rangeland Ecology Management (LAS 2109)**

**SEMESTER 1 EXAMINATION**

**February 2022**

**Time Allowed:** **3 hours**

**Special Requirements:** **None**

**Examiner's Name:** **L. Sebele**

***Instructions to Candidates:***

1. *The paper consists of six questions, answer **ALL** questions in **Section A** and **ANY TWO** in **Section B**.*
2. *Marks for each question are shown in brackets. Where a question has subdivisions, the marks for each subdivision are given.*
3. *Illustrate your answer, where applicable, with large clearly labelled diagrams.*

**MARK ALLOCATION**

| QUESTION | MARKS |
|---|---|
| SECTION A | **60** |
| SECTION B | **40** |
| **TOTAL ATTAINABLE MARKS** | **100** |

***This paper consists of two printed pages including this one.***

**SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION**

**QUESTION 1**

**a)** List the five major woody vegetation types of Zimbabwe, giving the main tree species**.** **[10]**

**b)** Describe the key determinants of savanna vegetation structure and function. **[10]**

**QUESTION 2**

**a)** Outline the response of grasses to defoliation. **[10]**

**b)** Describe how plants avoid herbivory. **[10]**

**QUESTION 3**

**a)** Describe how you would assess the success of using an enclosure. **[10]**

**b)** Elephants play a facilitative role in the environment. Support this statement. **[10]**

**SECTION B: ANSWER ANY TWO QUESTIONS IN THIS SECTION**

**QUESTION 4**

**a)** Explain why in the grasslands and savannas of the more arid regions, High Performance Grazing might perform better than High Utilisation Grazing. **[6]**

**b)** Describe how you would use the benchmark method to assess a grassland. **[14]**

**QUESTION 5**

Describe the different methods that can be used to control bush encroachment. **[20]**

**QUESTION 6**

Describe how you would use the Ivy's Veld condition assessment method to assess a rangeland. **[20]**

**QUESTION 7**

Describe the Clementsian successional model and outline its shortfalls. **[20]**

**END OF EXAMINATION**