

**NATIONAL UNIVERSITY OF LESOTHO**  
**FACULTY OF AGRICULTURE**  
**DEPARTMENT OF ANIMAL SCIENCE**  
**BACHELOR OF SCIENCE IN ANIMAL SCIENCE**  
**REM 3501: RANGE MANAGEMENT AND IMPROVEMENT**  
**FIRST SEMESTER FINAL EXAMINATION**

**JANUARY 2024**

**MARKS: 100**

**TIME: 3hrs**

**INSTRUCTIONS**

**Answer all questions**

**Start every question on a new page.**

**Points should be bulleted**

### **Question 1**

Define the following terms: **(10 Marks)**

- a) Range improvement
- b) Range management
- c) Rangeland inventory
- d) Range condition
- e) Rangeland

### **Question 2**

- a) Why are ecosystems regarded as dynamic entities? **(2 Marks)**
- b) List and explain two parameters used to measure changes in ecosystems. **(4 Marks)**
- c) Mention the main traits of rangelands. **(4 Marks)**

### **Question 3**

- a) What is land tenure system? **(2 Marks)**
- b) Regardless of the complex web of competing interests, the land tenure system can be classified as? **(8 Marks)**

### **Question 4**

- a) **Inventory** and **monitoring** have always had been crucial components of rangeland management because they aid in making decisions in accordance with the productive potential of the land resource such as carrying capacity and usage levels. Clearly outline six objectives of the two mentioned above. **(6 Marks)**
- b) Why are range land users concerned about range condition? **(4 Marks)**

### **Question 5**

- a) Researchers assessed the rangeland in one study region and discovered that invasive plant species predominated there. Describe how you would solve the problem. **(10 Marks)**
  
- b) A small group in Roma Valley expressed concern about the low productivity of their range area. Using your range management knowledge, clearly state the strategies you would employ to address the challenges presented. **(10 Marks)**

### **Question 6**

- a) Define the term prescribed burning. **(2 Marks)**
- b) Discuss the primary goals of prescribed burning. **(8 Marks)**
- c) Explain briefly the factors to consider when applying prescribed burning. **(6 Marks)**
- d) Outline the negative effects of prescribed burning on both animals and plants. **(4 Marks)**

### **Question 7**

- a) Discuss the factors that contribute to rangeland degradation. **(8 Marks)**
- b) Describe the measures that will be put in place to restore degraded rangelands. **(12 Marks)**