



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

Faculty of Health, Applied Science and Natural Resources

Department Agriculture and Natural Resources Sciences

QUALIFICATION: Bachelor of Natural Resource Management (Nature Conservation)	
QUALIFICATION CODE: 07BNRS	LEVEL: 6
COURSE: Rangeland Ecology and Management	COURSE CODE: REM611S
DATE: July 2022	SESSION: July
DURATION: 3 (three) hours	MARKS: 150

<u>SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</u>	
EXAMINER(S)	Ms. E. N. Nghalipo
MODERATOR:	Mr. R. Kavari

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL eleven (11) questions.2. Read all questions carefully before answering.3. Number your answers clearly.4. Make sure your student number appears on the answering script.

PERMISSIBLE MATERIALS

1. Examination paper
2. Examination script
3. Calculator

THIS QUESTION PAPER CONSISTS OF 3 PAGES (Excluding this front page)

QUESTION 1

Describe the following terms and phrases fully, as applied to Rangeland Ecology and Management, using a relevant example for each.

- 1.1 Rangeland Condition (2)
 - 1.2 Primary succession (2)
 - 1.3 Rotational Grazing (2)
 - 1.4 Stocking rate (2)
 - 1.5 Prescribed Fire (2)
 - 1.6 Pioneer species (2)
 - 1.7 Climax community (2)
 - 1.8 Landscape Function Analysis (2)
 - 1.9 National Park Management Plan (2)
 - 1.10 Adaptive management (2)
- [20]

QUESTION 2

- 2.1. Discuss the five forces that threaten rangeland integrity. (10)

[10]

QUESTION 3

- 3.1 What are the main objectives for assessing veld/rangeland conditions? (4)
- 3.2 List 4 common bush encroacher species in Namibian rangelands. (4)
- 3.3 What can be concluded regarding the grazing status of a rangeland if you find a lot of?
(a) Decreaser grasses
(b) Increaser I grasses

[10]

QUESTION 4

- 4.1 Explain the importance of rangeland assessment and monitoring. (2)
- 4.2 You have been hired by Agra ProVision as a **Rangeland Consultant** to *design appropriate rangeland assessment and monitoring approaches* in Namibia. Discuss the **key aspects** that you need to understand. (8)

[10]

QUESTION 5

- 5.1 Explain the following terms and the consequences of each and how can they be prevented in communal areas? (15)
- a) Overstocking
 - b) Overgrazing

[15]

QUESTION 6

- 6.1 Using a sketch/diagram to illustrate, explain the ecological succession process. (10)

[10]

QUESTION 7

- 7.1 Fire behaviour is influenced by different factors. Mention *five* factors, and briefly explain how these factors influence fire behaviour. (5)
- 7.2 Describe the factors that determine vegetation recovery after fire. (6)
- 7.3 Differentiate between a headfire and a backfire. (4)

[15]

QUESTION 8

- 8.1 Explain the factors that determine animals' habitat preference. (20)

[20]

QUESTION 9

- 9.1 Explain why it is important to carefully consider the placement and maintenance of water points on a game farm/ park (from a wildlife and veld management perspective). (10)
- 9.2 Why is the concept of adaptive management important in natural resources management? (5)

[15]

QUESTION 10

During a road strip count, visibility distance is recorded at 100m intervals and the distances are listed in the table below.

<i>Sample</i>	<i>Width (m)</i>
1	10
2	10
3	35
4	22
5	20
6	30
7	15
8	20
9	25
10	10

- 10.1 Explain why game count is an important aspect of wildlife management. (2)
 - 10.2 During which types of wildlife surveys is the MSV used? (2)
 - 10.3 Calculate the mean strip visibility from measurements that were taken in a study area and are listed in the table above. (2)
 - 10.4 What is the length of the transect along which these measurements were taken? Show your calculations. (2)
 - 10.5 What kind of vegetation type would you expect in this study area? (2)
- [10]**

QUESTION 11

- 11.1 Conduct a root cause analysis on littering problem on NUST campus. (15)
- [15]**

Total marks: 150

The END