

UNIVERSITY OF FORT HARE

AGP 324

Main Examination

November 2018

Time : 3 Hours

Subject : APPLIED RANGE MANAGEMENT

Marks : 100

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES INCLUDING

Internal Examiners

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INSTRUCTIONS

ANSWER ALL FOUR (4) QUESTIONS

QUESTION 1

In the Thorn veld savannas of Eastern Cape, *Cymbopogon plurinodis* is the dominant grass species in underutilized or selectively grazed rangelands. This species replaces *Themeda triandra*, the climax grass species dominant in good or undisturbed rangelands or benchmark sites.

- a) What is a benchmark site? [2]
- b) Describe *C. plurinodis* in terms of
 - inflorescence type [1]
 - growth form [2]
 - life form [1]

 - root development [2]

 - forage value [1]
- c) If you agree that this species is not desirable, suggest some approaches to reduce its population. [3]
- d) Describe *T. triandra* in terms of
 - inflorescence type [1]
 - growth form [2]
 - life form [1]
 - root development [2]
 - grazing value [2]
- e) What would you recommend to reverse a degraded rangeland back to its climax vegetation? [5]

QUESTION 2

The veld condition at the UFH Farm shows signs of deterioration in most camps. However, this needs to be measured in order to come up with practical recommendation for restoration or improvement. One component of the veld that needs assessment is the soil status.

- A) Suggest soil chemical properties that need assessment and why? [12.5]
- B) Suggest soil physical properties that need assessment and why? [12.5]

QUESTION 3

- a) Describe the plant successional stages in a rangeland ecosystem. [12]
- b) With the aid of a diagram, describe the hypothetical relationship between range condition and plant succession. [13]

QUESTION 4

Based on your practical experience of this course,

- A) Outline the advantages and limitations of point methods for range condition assessment. [10]
- B) Rangeland degradation in semi-arid areas is considered a threat to biodiversity, ecosystem integrity and agricultural production. List and describe five (5) indicators of rangeland degradation. [15]