

45



UNIVERSITY OF SWAZILAND

2nd SEM. 2015/2016

FINAL EXAMINATION PAPER

PROGRAMME: BSc. ANIMAL SCIENCE YEAR 2
BSc. ANIMAL SCIENCE (DAIRY OPTION) YEAR 2

COURSE CODE: AS 205

TITLE OF PAPER: RANGE MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3)
QUESTIONS

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE
CHIEF INVIGILATOR**

QUESTION 1

- (a) Name and define the **THREE** range types that occur in Swaziland. (9 Marks)
- (b) Assume you have been contracted to calculate the carrying capacity in one of the private ranches in the Lowveld of Swaziland; the ranch measures 1 100 ha. You go out and take 60 samples using a 100 cm by 50 cm metal frame; you get an average of 285 g DM.
- (i) Calculate production in kg DM per ha of this ranch. (4 Marks)
- (ii) Calculate how many 400 kg beef cattle can be grazed year-long in this ranch. (6 Marks)
- (iii) If the animals would have to travel a distance of 2.4 km to get water, what would be the carrying capacity of the above ranch? (3 Marks)
- (iv) In addition to the travelling distance in (iii) above, if the percent slope of the ranch is 5 percent, what would be the carrying capacity of this ranch? (3 Marks)

QUESTION 2

“The first consideration of pasture production must be to preserve and if possible increase the growth of primary producers”. Discuss this statement and outline some of its practical implications. (25 Marks)

QUESTION 3

Fully discuss the **FOUR** grazing management principles that must be followed by livestock farmers. (25 Marks)

QUESTION 4

Discuss the use of prescribed fire in the Lowveld of Swaziland under the following headlines:

- (i) Role of fire. (10 Marks)
- (ii) Frequency of burning. (5 Marks)
- (iii) Time of burning in the calendar year. (10 Marks)

QUESTION 5

This past growing season (2015/2016) the country was hard hit by drought; we lost thousands of cattle. Discuss some of the following drought management strategies which our farmers could have used:

- (i) Store feed when plentiful (5 Marks)
- (ii) Keep livestock well distributed across the range (5 Marks)
- (iii) Completely destock (6 Marks)
- (iv) Monitor water supplies (4 Marks)
- (v) Sell livestock quickly (5 Marks)