


UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME: BS.c. ANIMAL SCIENCE YEAR 2
BS.c. ANIMAL SCIENCE (DAIRY OPTION) YEAR 2

TITLE OF PAPER: RANGE MANAGEMENT

COURSE CODE: AS 205

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION ONE (1) AND ANY OTHER TWO (2) QUESTIONS

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

**QUESTION 1**

(a) Highlight the four cornerstones of grazing management and explain briefly which of these is the most important. (20 marks)

(b) Assume you are a range manager in one of the private ranches in the Lowveld of Swaziland; the ranch measures 905 ha. You are asked to calculate the carrying capacity of this ranch. You go out and take 67 samples using a 100 cm by 50 cm metal frame; you get an average of 209 g DM.

(i) Calculate production in kg DM per ha of this ranch. (5 marks)

(ii) Calculate how many 420 kg beef cattle can be grazed in this ranch during summer for 180 days. (9 marks)

(iii) If the animals would have to travel a distance of 2 km to get water, what would be the carrying capacity of the above ranch? (3 mark)

(iv) On the other hand if the distance to water was normal but the percent slope of the ranch was 15 percent, what would be the carrying capacity of the above ranch? (3 mark)

**QUESTION 2**

"Look after the pastures and the animals will look after themselves". Briefly discuss this saying and outline its practical implications. (30 marks)

**QUESTION 3**

(a) List four primary vegetation surveys you would carry out to determine optimum stocking rate. (5 marks)

(b) What time of the year would you recommend supplementation of range animals and why? (5 marks)

(c) Discuss range reseeding as one of the technologies you could adopt to restore degraded rangelands. (20 marks)

**QUESTION 4**

(a) Discuss the role of fire as an important tool in the management of our rangelands. (20 marks)

(b) Highlight five daily routine duties of farm managers (10 marks)

**QUESTION 5**

For profitable and sustainable livestock production it is important to observe correct or optimum stocking rate. Discuss fully five factors that influence optimum stocking rate. (30 marks)