



Page 1 of 3

UNIVERSITY OF SWAZILAND

2nd SEM. 2012/2013

FINAL EXAMINATION PAPER

**PROGRAMME: B.Sc. ANIMAL SCIENCE YEAR 2
B.Sc. ANIMAL SCIENCE (DAIRY OPTION) YEAR 2**

COURSE CODE: AS 205

TITLE OF PAPER: RANGE MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

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

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CHIEF INVIGILATOR**

QUESTION 1

- (a) "If we keep down the shoot, we kill the root." Discuss this statement. (10 marks)
- (b) A young man who has just bought a ranch measuring 1200 ha hires you to calculate the carrying capacity for his ranch. You go out and take 55 samples on his ranch using a 100 cm by 50 cm metal frame; you get an average of 215 g DM per quadrat.
- (i) Calculate production in kg DM per ha of his ranch. (3 marks)
- (ii) Calculate how many 400 kg beef cattle he can graze in summer for 180 days. (6 marks)
- (iii) If the animals would have to travel a distance of 1.6 Km to get water, what would be the carrying capacity of the ranch? (3 marks)
- (iv) On the other hand if the percent slope of the ranch was 8% what would be the final carrying capacity of the ranch? (3 marks)

QUESTION 2

- (a) Briefly discuss the four grazing management principles that must be followed by livestock farmers and mention which of this is the most important. (15 marks)
- (b) Outline five guidelines that could be followed by range managers to avoid plant poisoning to livestock. (10 marks)

QUESTION 3

- (a) Give an outline of multiple uses of rangelands under the headline "Social amenities and recreational products". (8 marks)
- (b) The Lowveld of Swaziland is well suited to ranching; describe fully this range type (leave out discussion on physical characteristics and other activities). (17 marks)

QUESTION 4

- "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 5

(a) In complete sentences, outline four characteristics that are associated with high grazing resistance in grasses. (10 marks)

(b) The continuous grazing method is still popular among some ranchers. Discuss the concept, advantages and disadvantages of this grazing system. (15 marks)