



2nd SEM. 2009/2010

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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 THREE (3)
 QUESTIONS

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 CHIEF INVIGILATOR

QUESTION 1

- (a) State the five range management concepts. (10 marks)
- (b) A young man who has just bought a ranch measuring 650 ha hires you to calculate the carrying capacity for his ranch. You go out and take 40 samples on his ranch using a 50 cm by 50 cm metal frame; you get an average of 150 g DM.
- (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. (8 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? (2 mark)
- (iv) On the other hand if 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? (2 mark)

QUESTION 2

- (a) Briefly discuss the four cornerstones of range management and mention which of these is the most important. (17 marks)
- (b) Outline four guidelines that could be followed by range managers to avoid plant poisoning to livestock. (8 marks)

QUESTION 3

- (a) Name and define the three range types that occur in Swaziland. (10 marks)
- (b) Give five drought management principles a range manager can follow to mitigate against drought effects. (15 marks)

QUESTION 4

- (a) "If we keep down the shoot, we kill the root." Comment on this statement. (10 marks)
- (b) The impact of invasive weeds on the environment is becoming a serious concern, and governments are spending a lot of money to control these. With particular reference to *Chromolaena odorata* (Siam weed or Sandanezwe), clearly describe the manual method to control this weed. (15 marks)

QUESTION 5

The continuous grazing method is still popular among some ranchers.

Outline both the advantages and disadvantages of this grazing system.

(25 marks)