



UNIVERSITY OF SWAZILAND

2nd SEM. 2016/2017

FINAL EXAMINATION PAPER

PROGRAMME: B.Sc. ANIMAL SCIENCE YEAR 3, B.Sc. ANIMAL SCIENCE
(DAIRY OPTION) YEAR 3, B.Sc. AGRONOMY YEAR 3

COURSE CODE: AS 305

TITLE OF PAPER: PASTURE AND FODDER MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS

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

QUESTION 1

Explain how planted pastures help in:

- (i) Providing more reliable feed
- (ii) Maintaining higher stocking rates

(18 Marks)

(7 Marks)

QUESTION 2

Beginning from final ploughing until seedling emergence, outline step by step the activities one would have to carry out to establish a 3-ha field of Rhodes grass pasture using the fertiliser distributor (broadcast) method.

(25 Marks)

QUESTION 3

With an aid of a fully labelled diagram, explain the relationship between stocking rate and livestock output.

(25 Marks)

QUESTION 4

As part of pasture management, highlight the significance of water availability.

(25 Marks)

QUESTION 5

(a) (i) Define and illustrate strip rotation grazing.

(6 Marks)

(ii) Mention the **FOUR (4)** factors that affect the size of the strip for each day's grazing.

(4 Marks)

(b) Inclusion of silage feeding is becoming a common practice with most dairy farmers. Assuming you are in charge of a dairy herd of 103 cows in Luyengo. The cows are fed silage year round at a rate of 4 kg (on dry matter basis) per head per day, calculate the following:

(i) Total silage requirements.

(3 Marks)

(ii) Total area required for silage production if the yield of maize is 20 tonnes/ha fresh material, with 24% dry matter.

(4 Marks)

(ii) Number of pit silos required, assuming each silo is 5.5 m long, 3 m wide and 1.5 m deep. Each cubic meter can take 120 kg of silage on dry matter basis.

(5 Marks)

(iv) Adjust the values for total silage needs, area required to produce the maize and the number of pit silos assuming a 20% loss in silage production.

(3 marks)