



2ND SEMESTER 2018/2019

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME: **B. Sc. AGRICULTURAL EDUCATION AND B. Sc.**
ANIMAL SCIENCE YEAR IV

COURSE CODE: **ASC403/ASD408**

TITLE OF PAPER: **DAIRY PRODUCTION AND TECHNOLOGY**

TIME ALLOWED: **TWO (2) HOURS**

INSTRUCTIONS: **ANSWER ANY TWO (2) QUESTIONS IN SECTION I**
AND ANY TWO (2) QUESTIONS IN SECTION II

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THE CHIEF INVIGILATOR

SECTION A

QUESTION 1

With an aid of a diagram, describe the lactation curve and explain how it is affected by pregnancy and stage of lactation.

(25 Marks)

QUESTION 2

A dairy manager observes a drastic decline in overall afternoon milk yield after a field visit by eighty (80) noisy students in the milking parlour during the milking session. Explain to the manager how this came about and how the ideal situation should be.

(25 Marks)

QUESTION 3

Write short notes on the following:

- a) Manipulation of mammary development; (15 Marks)
- b) Advantages of machine milking over hand milking. (10 Marks)

SECTION B

QUESTION 4

- a) Explain and illustrate the differences between the two monomers for lactose. (8Marks)
- b) Explain and illustrate the differences between the two anomers of lactose (8 Marks)
- c) Explain and illustrate biosynthesis of lactose in the mammary cell (9 Marks)

QUESTION 5

Given the following information about raw milk from five different farms, answer accordingly:

Farm	Corrected Lactometer Reading	Butter fat (%)	Solid Not Fats (%)
Manzi	15	3.1	6.8
Nkomo	27.8	3.8	10
Noto	36	3.3	12
Bhali	28.0	2.1	8.2
Lulu	28.7	1.5	12

- a) Calculate the specific gravity of the samples (5 Marks)
- b) Calculate the total solids of the samples (5 Marks)
- c) Explain which samples are adulterated and how (15 Marks)

QUESTION 6

- d) Discuss the technology of butter making (25 Marks)