



UNIVERSITY OF SWAZILAND

2ND SEM.2012/2013

FINAL EXAMINATION PAPER

PROGRAMME: B.SC. ANIMAL SCIENCE YEAR 4,
AGRICULTURAL EXTENTION AND EDUCATION
YEAR 4

COURSE CODE: AS 403

TITLE OF PAPER: DAIRY PRODUCTION AND TECHNOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

THIS PAPER SHOULD NOT BE OPENED UNTIL THE CHIEF
INVIGILATOR HAS GRANTED PERMISSION.

QUESTION 1

- a) Discuss three types of dairy farming systems. (13 marks)
- b) Give three major dairy cattle breeds of the world and describe four typical characteristics of each breed. (12 marks)

QUESTION 2

- a) Explain the characteristics of traditional and commercial livestock production sectors in Swaziland and describe their relative contribution to the country's milk production. (10 marks)
- b) Define lactation persistency and explain three factors that affect lactation persistency. (15 marks)

QUESTION 3

- a) Briefly explain the following processes: (13 marks)
- I. Centrifugation
 - II. Sterilization
 - III. Pasteurization
 - IV. Homogenization
- b) Outline the essential steps involved in cheese manufacturing. (12 marks)

QUESTION 4

- a) List seven aspects that should be given due consideration in making dairy waste management plans. (7 marks)
- b) With the help of a sketch, show the physical changes involved in the formation of butter. (10 marks)
- c) Compare coliform and lactic acid bacteria (8 marks)

QUESTION 5

- Outline the biosynthesis of milk fat and protein. (25 marks)