



2ND SEM. 2009/2010

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

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

COURSE CODE: APH 404

TITLE OF PAPER: DAIRY TECHNOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY 4 QUESTIONS.

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

QUESTION 1

- a) Describe and illustrate the major carbohydrate of milk **(10 Marks)**
- b) Explain and illustrate the modification of lactose to:
 - (i) Lactulose **(8 Marks)**
 - (ii) Lactitol **(4 Marks)**
 - (iii) Lactobionic acid **(3 Marks)**

QUESTION 2

Describe the fermentation technology of the following dairy products:

- a) Koumis **(7 Marks)**
- b) Kifir **(6 Marks)**
- c) Yoghurt **(12 Marks)**

QUESTION 3

Describe the principle and significance of the following dairy Technologies:

- a) the Delvo Test **(6 Marks)**
- b) the Lactometer method for specific gravity **(6 Marks)**
- c) the Resazurin test **(4 Marks)**
- d) the Phosphatase test **(3 Marks)**
- e) The Lactoperoxidase system **(6 Marks)**

QUESTION 4

Describe and illustrate five different types of lipids found in cow's milk **(25 Marks)**

QUESTION 5

Describe the technology of ice cream making and explain the role of the major ingredients used in this technology **(25 Marks)**