



2ND SEM. 2017/2018

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME: B. Sc. ANIMAL SCIENCE DAIRY OPTION YEAR II
B. Sc. ANIMAL SCIENCE DAIRY OPTION YEAR IV

COURSE CODE: ASD204/ ASD403

TITLE OF PAPER: MILKING AND MILK HYGIENE

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY 4 QUESTIONS.

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

QUESTION 1

- a) Describe the anatomical advantage of the Friesian cow's udder compared to the dairy goat and the Nguni cow **(15 Marks)**
- b) Explain the reasons why milk yields are higher when milking is done quickly without any frightening noise in the milking parlour **(10 Marks)**

QUESTION 2

Write short notes about the following:

- a) Sources of spoilage bacteria in milk. **(5 Marks)**
- b) Thermotolerant bacteria. **(8 Marks)**
- c) Phosphate test. **(12 Marks)**

QUESTION 3

- a) Explain and illustrate the differences in the teat and gland cistern of the cow, sheep and the goat. **(10 Marks)**
- b) Explain five possible causes of high bacterial cell counts in raw milk and briefly explain how these can be avoided. **(15 Marks)**

QUESTION 4

- a) Explain three possible sources of antibiotic residues in milk and give three reasons why such milk should not be sold to consumers. **(9 Marks)**
- b) Briefly discuss robotic milking and explain its significance on milk yield. **(16 Marks)**

QUESTIONS 5

Discuss the major innovations in milking systems for dairy cows. **(25 Marks)**