



2<sup>ND</sup> SEM. 2018/2019

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

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

**COURSE CODE:** ASD402

**TITLE OF PAPER:** DAIRY TECHNOLOGY

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

**INSTRUCTIONS:** ANSWER ANY 4 QUESTIONS.

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THE CHIEF INVIGILATOR**

### QUESTION 1

- Explain and illustrate the differences between the two monomers for lactose (8 Marks)
- Explain and illustrate the differences between the two anomers of lactose (8 Marks)
- Explain and illustrate biosynthesis of lactose in the mammary Cell (9 Marks)

### QUESTION 2

Explain and illustrate two examples in each case:

- Saturated fatty acids found in milk (6 Marks)
- Omega three fatty acids found in milk (6 Marks)
- Sulphur containing amino acid found in milk whey (6 Marks)
- Pigment forming vitamins or vitamin precursors found in milk (7 Marks)

### QUESTION 3

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

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



**QUESTION 4**

Explain the major differences between the following:

- a) *Salmonella typhimurium* and *Lactococcus lactis* ssp *lactis* (8 Marks)
- b) Acid cheese and sweet cheese (9 Marks)
- c) *Saccharomyces cerevisiae* and *Streptococcus thermophilus* (8 Marks)

**QUESTION 5**

Discuss the technology of butter making (25 Marks)