2ND SEMESTER 2019/2020

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

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

COURSE CODE: **ASD408/AS 403**

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

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

INSTRUCTIONS: **ANSWER ANY TWO (2) QUESTIONS IN SECTION A**

AND ANY TWO (2) QUESTIONS IN SECTION B

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

SECTION A

QUESTION 1

a) Describe the factors affecting lactation persistence in a dairy cow. **(15 Marks)**

b) Briefly discuss the advantages and disadvantages of machine milking. **(10 Marks)**

QUESTION 2

a) Describe the milk let down reflex and state the causes of milk hold up in a cow. **(15 Marks)**

b) Briefly discuss any two galactopoietic hormones that are of significance to milk production. **(10 Marks)**

QUESTION 3

Write short notes on:

a) Genetic improvement for productive and reproductive traits in dairy cattle. **(15 Marks)**

b) Mastitis **(10 Marks)**

SECTION B

QUESTION 4

a) Describe and illustrate milk triacylglycerides **(10 Marks)**

b) Outline and illustrate the biosynthetic pathway for milk triacylglycerides in the mammary cell **(15 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 (%)
Buhle	28	3.8	9.4
Lubisi	17	2.3	6.6
Masi	37.4	3.8	12.7
Gede	27.5	2.1	8.2
Nkonko	29.0	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

If you owned a Jersey cattle dairy farm and you were producing 500 litres of milk per week that has 5.5% butter fat, what products would make a business sense to produce, and also explain how you are going to produce them?

(25 Marks)