



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES
SCHOOL OF AGRICULTURE AND NATURAL RESOURCES SCIENCES
DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS**

QUALIFICATIONS: BACHELOR OF SCIENCE IN AGRICULTURE	
QUALIFICATIONS CODE: 07BAGA	LEVEL: 7
COURSE CODE: SLH611S	COURSE NAME: SUSTAINABLE LARGE RUMINANT HUSBANDRY
DATE: JULY 2025	PAPER: 2
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER:	DR. GABRIEL NGUNGAA HANGARA
MODERATOR:	MRS. LUCIA TUYENI-KELAO KAFIDI

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer all the questions.2. Write neatly and clearly.3. Mark all answers clearly with their respective question numbers.4. All written work MUST be done in blue or black ink.5. No books, notes and other additional aids are allowed.

PERMISSIBLE MATERIALS

1. Examination paper
2. Examination script

**THIS QUESTION PAPER CONSISTS OF 2 PAGES
(Excluding This Front Page)**

Question 1

Why it is important to identify cattle? (8)

Question 2

List and briefly describe five parts of a bull reproductive system. (10)

Question 3

3.1 List four signs of oestrus in cows. (4)

3.2 What roles do hormones and minerals play in the control of oestrus cycle? (15)

[19]

Question 4

Define the following terms?

a) Cytokines (2)

b) Lymphokines (2)

c) Interleukins (2)

d) Interferon (2)

[8]

Question 5

When the farmer is scoring the body condition for beef cattle, which parts of the body does he need to look at? (6)

Question 6

6.1 What are saliva's most important roles? (3)

6.2 What are the elements contained in the saliva? (5)

[8]

Question 7

7.1 What is artificial insemination in cattle? (1)

7.2 What are the causes of low conception rate, if the cow undergoes artificial insemination? (4)

7.3 Why is it preferable to store the bull semen in liquid nitrogen instead of storing it in dry ice-alcohol? (4)

[9]

Question 8

Explain the following terms of dairy management system.

- a) Steaming up period (2)
 - b) Inter-calving period (2)
 - c) Lactation period (2)
 - d) Service period (2)
 - e) Gestation period (2)
- [10]**

Question 9

Give 2 deficiencies of the following nutrients?

- a) Vitamin E Tocopherols (2)
 - b) Vitamin C Ascorbic acid (2)
 - c) Pyridoxine B6 (2)
- [6]**

Question 10

What will the technician be careful of when inseminating the cow? (8)

Question 11

Explain the functions of Natural killer cells (NK). (8)

Total [100]