FACULTY OF NATURAL RESOURCES MANAGEMENT AND AGRICULTURE

DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH

BACHELOR OF SCIENCE HONOURS DEGREE IN ANIMAL SCIENCE

ANIMAL BIOTECHNOLOGY (LAS 4208)

SEMESTER 2 EXAMINATION

MAY 2026

Time Allowed:	**3 hours**
Total Marks:	**100**
Special Requirements:	**None**
Examiner's Name:	**Ms M.I Tshuma**

Instructions to Candidates:

1. *The paper consists of six questions, answer **ALL** questions in **Section A** and **ANY TWO** in **Section B**.*
2. *Marks for each question are shown in brackets. Where a question has subdivisions, the marks for each subdivision are given.*
3. *Illustrate your answer, where applicable, with large clearly labelled diagrams.*

MARK ALLOCATION

QUESTION	**MARKS**
SECTION A	**60**
SECTION B	**40**
TOTAL ATTAINABLE MARKS	**100**

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SECTION A

QUESTION 1

Describe the following breeding technologies:

i) Semen sexing. [5]

ii) Multiple ovulation and embryo transfer (MOET). [5]

iii) In-vitro fertilisation. [5]

iv) Heat synchronisation. [5]

QUESTION 2

a) Outline any five methods of transferring gene. [15]

b) State the properties of a cell culture media. [5]

QUESTION 3

Discuss the ethical concerns on genetically engineered foods and medicines. [20]

SECTION B

QUESTION 4

With the aid of a diagram if possible, outline the steps followed in producing a transgenic fish. [20]

QUESTION 5

Discuss the possible application of biotechnology in Animal production. [20]

QUESTION 6

Describe the development of gene therapy and its importance in the Animal health. [20]

END OF QUESTION PAPER