



GWANDA STATE UNIVERSITY
FACULTY OF LIFE SCIENCES
DEPARTMENT OF ANIMAL SCIENCE
LAS 4101 ANIMAL BREEDING AND GENETICS II

End of Semester Final Examination Paper

November 2019

This examination paper consists of 3 pages

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: None
Examiner's Name: Mr R. Ndlovu

INSTRUCTIONS

1. Answer **all** questions in Section A
2. Answer **any two** questions in Section B

MARK ALLOCATION

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

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Section A: Answer ALL questions

Question 1

Write brief notes on the following:

- i) Random mating. [2]
- ii) Pedigree. [3]
- iii) Crossbreeding [3]
- iv) Quantitative traits. [6]
- v) Qualitative traits. [6]

Question 2

- a) Define inbreeding. [1]
- b) What are the genetic and phenotypic effects of inbreeding? [14]
- c) List **five** applications of inbreeding in animal genetics and breeding. [5]

Question 3

- a) Outline the steps in progeny testing on family selection. [6]
- b) Discuss any **five** factors which affect response to selection. [14]

Section B: Answer any TWO questions

Question 4

With the aid of a figure diagram, describe the different steps of a breeding programme. [20]

Question 5

Explain the following:

- a) Records as tools of genetic improvement in dairy cattle breeding. [10]
- b) Roles of indigenous cattle breed in breeding programs in Southern Africa. [10]

Question 6

Modern approach in animal breeding uses advanced molecular genetics techniques.

- a) What are the advantages of molecular approach over the traditional approach in animal breeding? [5]
- b) Outline the hurdles in the application of these molecular genetics techniques. [15]

END OF QUESTION PAPER

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