

GWANDA STATE UNIVERGWANDA STATE UNIVERSITY



FACULTY OF NATURAL RESOURCES MANAGEMENT AND AGRICULTURE

DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH

**BACHELOR OF SCIENCE HONOURS DEGREE IN ANIMAL PRODUCTION AND
HEALTH**

VETERINARY IMMUNOLOGY

NAP2205

FIRST SEMESTER FINAL EXAMINATION PAPER

NOVEMBER 2024 MAIN EXAM

This examination paper consists of 2 pages

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: None
Examiner's Name: Dr L. Maposa

INSTRUCTIONS

1. Answer **all** questions in Section A
2. Answer **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 (60 marks)

- 1a) Describe the major components of the innate immune system in animals and their roles in the initial defense against pathogens. **[12 marks]**
- 1b) Discuss the main differences between innate and acquired immunity. **[8 marks]**
- 2a) State the main characteristics of acquired immunity. **[3 marks]**
- 2b) List the different types of lymphocytes and their functions. **[6 marks]**
- 2c) Write notes on the following:
- i. Origin and development of lymphocytes. **[6 marks]**
 - ii. The development of acquired immunity. **[5 marks]**
- 3a) Explain the significance of maternal immunity in newborn animals, including the transfer of antibodies and the implications for early life disease prevention. **[10 marks]**
- 3b) Describe the process of antigen presentation and its importance in the adaptive immune response in veterinary species. **[10 marks]**

Section B: Answer any 2 questions (40 marks)

- 4) Describe the principles and applications of vaccination in veterinary medicine, including the different types of vaccines and their modes of action. **[20 marks]**
- 5a) Discuss the impact of stress and other environmental factors on the immune system of animals. **[10 marks]**
- 5b) Discuss the potential consequences of stress and other environmental factors on animal health and disease susceptibility. **[10 marks]**
- 6) Outline the process of inflammation, including the key cellular and molecular events that occur and its role in the immune response. **[20 marks]**

END OF EXAMINATION