



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2023/2024 ACADEMIC YEAR  
SECOND YEAR FIRST SEMESTER**

**SCHOOL OF NATURAL RESOURCES TOURISM  
& HOSPITALITY**

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

**COURSE CODE: AHP 2108-1**

**COURSE TITLE: IMMUNOLOGY**

**DATE: 15/12/2023**

**TIME: 0830-1130 HRS**

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## **INSTRUCTIONS TO CANDIDATES**

**Answer ALL questions**

*This paper consists of 2 printed pages. Please turn over*

**Answer ALL questions.**

**IMMUNOLOGY [120 Marks]**

1. a) Define immunology and explain its historical significance in the field of medicine (5 marks).  
b) Discuss the importance of understanding immunology in veterinary science (10 marks).  
c) Provide examples of specific and non-specific defence mechanisms in the immune system (5 marks).
2. Describe the mechanisms behind active and passive immunity, and give examples of each (20 marks).
3. Describe the classes of antibodies and their functions (20 marks).
4. Describe the principle behind a serological diagnostic test of your choice and explain its practical application in research, diagnosis, and disease control (20 marks).
5. Compare and contrast live attenuated, inactivated, subunit, and toxoid vaccines (20 marks).
6. a) Provide routes of vaccine application (5 marks)  
b) Discuss the importance of veterinary vaccines (5 marks)  
c) Discuss possible causes of lack of efficacy in vaccines/vaccine failure (5 marks)  
d) Discuss reasons that may hamper the development of an effective vaccine against a pathogen (5 marks)

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