



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR DEGREE
OF BACHELOR OF SCIENCE IN MEDICAL BIOTECHNOLOGY,
PHARMACEUTICAL SCIENCE & MEDICAL LABORATORY
SCIENCE WITH INFORMATION TECHNOLOGY**

MAIN CAMPUS

PML 311: IMMUNOLOGY

Date: 9th December, 2016

Time: 8.30 - 11.30am

INSTRUCTIONS:

- Answer ALL Questions in Section A.
- Answer Question 9 and any other ONE in Section B.



Section A (Short answer questions)

40 Marks

Answer all questions in this section.

1. List any FIVE characteristics of secondary immune responses. (5 marks)
2. Describe the specialized features of human skin useful in defense against microbes. (5 marks)
3. Explain how antibodies which have the same basic shape recognize antigens of a wide variety of different shapes (5 marks)
4. Describe the kinds of somatic rearrangements of DNA that occur in the immunoglobulin gene loci. (5 marks)
5. Explain immunological consequences of thymectomy. (5 marks)
6. Describe the process of phagocytosis and its immunological importance. (5 marks)
7. Comment on the contribution of Elie Metchnikoff in the development of immunology. (5 marks)
8. Explain why people with a deficiency in complement factor I are susceptible to recurrent bacterial infections. (5 marks)

Section B (Essay questions)

30 Marks

Answer question 9 (COMPULSORY) and ANY other question in this section.

9. Dendritic cells migrate through tissues providing a surveillance mechanism for infection by pathogens.
 - a) What types of dendritic cells are these? (2 marks)
 - b) Describe how dendritic cells identify the presence of infection in peripheral tissues and initiate an immune response to it in the lymph nodes. (10 marks)
 - c) What prevents dendritic cells from initiating immune responses to self antigens? (3 marks)
10. Discuss mechanisms viruses use to evade immune responses. (15 marks)
11. Discuss the key features that differentiate hyper acute, acute and chronic allergic reactions. (15 marks)