



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2018/2019
THIRD SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE (ENVIRONMENTAL HEALTH)

PPH 221: IMMUNOLOGY OF ENVIRONMENTAL HEALTH DISEASES

DATE: Wednesday, 31st July 2019

TIME: 2.00 p.m. - 4.00 p.m.

INSTRUCTIONS: SECTION A: ANSWER ALL QUESTIONS

1. a) Explain how the following T cells function during an immune response.
 - i) T cytotoxic (2 marks)
 - ii) T Helper (2 marks)
- b) Distinguish the following:
 - i) Innate and acquired immunity. (2 marks)
 - ii) Immunogen and epitope. (2 marks)
- c) Explain two ways in which each of the following primary organs of the immune system boost immunity to infection in human;
 - i) Bone marrow. (2 marks)
 - ii) Thymus gland (2 marks)
- d) Outline four methods used to classify antibodies. (4 marks)
- e) Explain two autoimmune processes that serve major physiological roles in the human body. (2 marks)
- f) Explain the current theory of antibody development in human body. (2 marks)

SECTION B: ANSWER QUESTION 2 (COMPULSORY) AND ANY OTHER TWO QUESTIONS

2. a) Explain four characteristics of an ideal vaccine. (4 marks)
- b) Discuss the advantages and disadvantages of live and dead vaccines.
 - i) Live vaccine (10 marks)
 - ii) Dead vaccine (6 marks)

INVOLVEMENT IN ANY EXAMINATION IRREGULARITY SHALL LEAD TO DISCONTINUATION

3. Describe the various ways you can classify antigens. (15 marks)
4. Describe the mechanisms in which the human body:
 - a) Prevents entry of pathogens into the body. (10 marks)
 - b) Eliminates the pathogens once they gain entry to the body. (5 marks)
5. Discuss the haemolytic disease of the newborn (erythroblastosis foetalis) (15 marks)