



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN POPULATION HEALTH

PPH 221: IMMUNOLOGY OF ENVIRONMENTAL HEALTH DISEASES

DATE: 13/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

This paper consists of two sections A and B

Section A is compulsory

Section B choose any two (2) questions

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

- a) Differentiate between the immune system and immune response (4 marks)
- b) State three (3) diseases which occurs in human population due to hitting the wrong target. (3 marks)
- c) Explain why the immune system is termed as “amazingly complex” (4 marks)
- d) Explain the term herd immunity and its applications. (3 marks)
- e) Explain how adaptive immunity responds to antigens (3 marks)
- f) Identify three (3) immunological organs and explain how they enhance immunity in the body. (3 marks)
- g) Explain the factors which facilitate the immunodeficiency conditions in the body systems. (3 marks)
- h) Differentiate between hypersensitivity and autoimmune diseases. (4 marks)

- i) Giving relevant examples define the term adjuvant as applied to immunology. (3 marks)

SECTION B: ANSWER ANY OTHER TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

- a) Discuss the importance of cytokines and the receptor cells. (10 marks)
b) Discuss self and non-self cells. (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the functions of the innate immune system. (10 marks)
b) Discuss the development of vaccines and their application. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Mr and Mrs Omoshigo are both aged 70 and 65 years respectively. Discuss various ways in which they can boost their immunity considering their ages. (10 marks)
b) An Epidemiologist noted that of late Mr and Mrs Omoshigo are frequently visiting different health facilities for treatment of illnesses such as pneumonia, unlike when they were young. Suggest five (5) factors which may contribute to their sickly moments of late. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the effects of environmental agents on the immune systems to humans. (8 marks)
b) During a certain celebration party whereby food and beverages were served, some people became infected with food poisoning while others did not, yet they all ate the same foods prepared by the same people at the same place. Discuss the factors which might have contributed to the said variations on those two scenarios. (12 marks)