



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

THIRD YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN POPULATION HEALTH

PPH 312: DYNAMICS OF INFECTIOUS DISEASES

DATE: 18/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

The 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) Define the following terms as used in infectious diseases (4 marks)
- i Virulence
 - ii Case fatality rate
 - iii Contamination
 - iv Infestation
- b) Differentiate between latent period and incubation period in infectious diseases (4 marks)
- c) Given the following data in population A of children at risk of acquiring mumps: calculate the attack rate. (3 marks)
- Children exposed = 305
- Children ill = 35

- d) Briefly explain the levels of prevention in infectious diseases (4 marks)
- e) Explain the epidemiologic triad (4 marks)
- f) Briefly explain 4 (four) agent characteristics that influence transmission of infectious diseases (4 marks)
- g) Explain types of reservoir (3 marks)
- h) Outline the four stages required for successful parasitism (4 marks)

SECTION B: CHOOSE ANY TWO (2) QUESTIONS. EACH QUESTION IS 20 MARKS

QUESTION TWO (20 MARKS)

- a) Discuss the ecological factors that influence occurrence of malaria (10 marks)
- b) Analyse the sociocultural aspects that influence transmission of infectious diseases (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe how infectious diseases are transmitted in a population (10 marks)
- b) Giving examples, explain the impact of infectious diseases in a population (10 marks)

QUESTION FOUR (20 MARKS)

An outbreak of cholera has been reported in county X and you are tasked in a team to control the epidemic

- a) Using compartmental models, explain the outbreak (10 marks)
- b) Describe the steps you will take in controlling the epidemic (10 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the role of vaccination in prevention of infectious diseases (10 marks)
- b) Describe preventive measures for vector borne diseases common in your county. (10 marks)