JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
PUBLIC HEALTH/ COMMUNITY HEALTH AND DEVELOPMENT

3RD YEAR 1st SEMESTER 2016/2017 ACADEMIC YEAR

KISII CAMPUS- PART TIME

COURSE CODE: HCD 3311

COURSE TITLE: DISEASE SURVEILLANCE AND OUTBREAK
INVESTIGATION

EXAM VENUE:LR 17 **STREAM: (BSc. P. Health / Comm Hlth & Dev)**

DATE: 21/12/16 **EXAM SESSION: 9.00 – 11.00 AM**

TIME: 2.00 HOURS

Instructions:

1. Answer all questions in section A and any other 2 questions in Section B.

2. Candidates are advised not to write on the question paper

3. Candidates must hand in their answer booklets to the invigilator while in the examination room

SECTION A (30 MARKS)

1. Explain **five** roles of disease surveillance in healthcare. (5marks)

2. Explain **four** conditions necessary for herd immunity in populations. (4marks)

3. Explain **four** mechanisms of horizontal disease transmission. (4marks)

4. Explain **four** types of epidemic/outbreaks in human populations. (4marks)

5. Explain **four** measures in the control of nosocomial infections in hospitals. (4marks)

6. Explain **five** factors considered in selecting indicators for evaluating the efficiency of disease surveillance. (5marks)

7. Explain **four** challenges encountered by health workers in routine diseases surveillance system in Kenya (4 marks)

SECTION B (40 MARKS)

Q1. (a) Distinguish between a primary case and a secondary case in disease

Epidemiology. **(2 marks)**

(b) The table below represents mumps experience of 390 families exposed to a primary case within a family. Study it and answer the questions that follow;

Age in years	Population		Cases	
	Total	No. susceptible before primary cases occurred	Primary	Secondary
2 – 4	300	250	100	50
5 – 9	450	420	204	87
10 – 19	152	84	25	15

(i) Calculate the secondary attack rate for 2 – 4 year old children. **(3marks)**

(ii) State **three** functions of calculating such a secondary attack rate to an

Epidemiologist. **(3marks)**

(c) Discuss the steps that may be taken to improve data collection in disease surveillance systems. **(12marks)**

Q2. (a) Discuss **four** factors that determine the incubation period of an infectious disease in human populations. **(4 marks)**

(b) You are a county disease surveillance officer, describe the steps you would undertake in investigating the outbreak of an infectious disease that has just occurred in your county. **(16 marks)**

Q3. (a) With appropriate examples explain **four** surveillance indicators for evaluating the efficiency of a typical Disease surveillance and Response System.

(8 marks)

(b) Explain the **strengths** and **limitations** of the following sources of health data;

(i) Hospital health records. **(6marks)**

(ii)Registries **(6marks)**

Q4. (a) What do you understand by the following terms? **(4 marks)**

(i) Endemic disease.

(ii) Holoendemic disease.

(iii) Hyper endemic disease

(iv) Epidemic disease

(b) Explain eight factors that contribute to the emergence and re-emergence of disease epidemics in human populations. **(10 marks)**