

**TECHNICAL UNIVERSITY OF MOMBASA**  
**FACULTY OF APPLIED AND HEALTH SCIENCES**  
**DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR**  
**OF SCIENCE IN COMMUNITY HEALTH**  
**BSCH 13S/YEAR4/ SEMESTER2**  
**APH 4405: INTRODUCTION TO HEALTH**  
**INFORMATICS**

**SEMESTER EXAMINATION**

**SERIES: APRIL/MAY 2016**

**TIME: 2 HOURS**

*Instructions to Candidates*

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions.

*This paper consists of two printed pages*

**Section one: All questions are COMPULSORY in this section (30 marks)**

**Question one:**

- a) The framework for Health informatics relies on the central concepts of data, information and knowledge, discuss these three concepts. (6 marks)
- b) Explain four parametric statistical tests you would use to make generalizations about a population based on results obtained from a study (8 marks)
- c) Define a relational database and explain why it is commonly used in public health. (4 marks)
- d) Ebola outbreak in West Africa in 2015, caused many deaths in a short period. To prevent similar levels of mortality, public health officers in neighboring countries were faced with dilemma of formulating the most optimal policy to reduce transmissivity. The public health officers decided to use surveillance data in West Africa and simulate the effect of each possible policy. What are the four merits of infectious disease simulation that made the neighboring countries adopt simulation instead of conducting epidemiological research study. (4 marks)
- e) What is the difference between active and passive disease surveillance? (4 marks)
- a) Explain the following words used in defining data security;  
Data security, Confidentiality and Personally identifiable information (PII) (6 marks)

**Section two: Answer ANY TWO questions (40 marks)**

**Question two (20 marks)**

One of the product of health informatics has been the development of the electronic medical record (EMR), which is the electronic version of the patient data found in the traditional paper record. Discuss five benefits of using EMR in offering clinical services. (20 marks)

**Question three (20 marks)**

Quantitative data in public health can be collected using various methods. Discuss five such methods you can use to collect quantitative data. (20 marks)

**Question four (20 marks)**

Disease surveillance is different from the usual epidemiological studies. Discuss five differences between disease surveillance and an epidemiological study. (20 marks)

**Question five (20 marks)**

A project is a temporary endeavour undertaken to create a unique product, service, or result. Management cycle of such projects has five stages. Discuss the five stages of project management in public health. (20 marks)