



**SOUTH EASTERN KENYA UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2023/2024**

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE IN PUBLIC HEALTH**

**HRT 306: PUBLIC HEALTH INFORMATICS**

**DATE: 10<sup>TH</sup> APRIL, 2024**

**TIME: 11.00-1.00 PM**

**INSTRUCTIONS TO CANDIDATES**

1. Answer all questions in section A and B ( 40 MARKS)
2. Answer question 1 and any other question from section C. (30 MARKS)

**SECTION A: MULTIPLE CHOICE QUESTIONS (10 MARKS) ANSWER ALL  
QUESTIONS IN THIS SECTION**

**SECTION A (MULTIPLE CHOISE QUESTIONS.**

1. A tool that is used to send message alert to patients while at home is:
  - a. Clinical Decision Support (CDS)
  - b. Health Information Exchange
  - c. Electronic Prescribing
  - d. Computerized Physician Order Entry (CPOE)
2. Information Technology (IT) alone has the potential to improve the quality, safety, and efficiency of health care.
  - A. True
  - B. False

- 3. Which one of the following can be used to monitor patient's vital signs at home?**
- A. Clinical Data Processing
  - B. Telehealth
  - C. Health Information Exchange
  - D. All of the above
- 4. Which of the following is a method of data collection?**
- A. Questionnaire
  - B. Interview guide
  - C. Interview
  - D. Tally sheet
- 5. Criteria for evaluating Public Health Informatics are:**
- A. Quality, information, effectiveness
  - B. Analysis, impact, quality
  - C. Effectiveness, quality, impact
  - D. Quality, analysis, information
- 6. An example of a tool used in data collection is:**
- A. Observation
  - B. Observation chart
  - C. Experiment
  - D. Focused Group Interview
- 7. mhealth can be used for diagnosis and treatment of patients.**
- A. True
  - B. False
- 8. Informatics is defined as:**
- A. The study of structure of system that analysis the information.
  - B. The study of collecting data.
  - C. The study of behaviour of equipment and devices that deals with data .
  - D. The study of behaviour and structure of system that generate, stores, process, and then presents information.

**9. Electronic prescribing comprises a one way transmission only at the point of care.**

- A. True
- B. False

**10. Public health surveillance is ----- collection, analysis and interpretation of health related data.**

- A. Systematic, brief
- B. Ongoing, systemic
- C. Systemic, ongoing
- D. Ongoing, systematic

**SECTION B: SHORT ANSWER QUESTIONS (30 MARKS) ANSWER ALL**

**QUESTIONS IN THIS SECTION**

1. State six uses of public health informatics. (6 marks)
2. Enumerate six key element public health informatics. (6 marks)
3. Outline six areas in Public Health Informatics. (6 marks)
4. Highlight six benefits of medication system informatics (6 marks)
5. Explain six qualities of effective public health surveillance (6 marks)

**PART C: LONG ANSWER QUESTIONS (30 MARKS) ATTEMPT QUESTION 1 AND ANY OTHER**

**QUESTION ONE**

Discuss the types, sources of data, use of disease surveillance and application of Public Health Informatics in that. (15 marks)

**QUESTION TWO**

Discuss the following tools in relation to their characteristic, benefits to the patient and physician as used in health care set up.

- i. Clinical Decision Support (CDS) (4 marks)
- ii. Electronic Medical Record (EMR) (5 marks)
- iii. Personal Health Record (PHR) (6 marks)

**QUESTION THREE**

Describe the informatics challenges in Public Health and explain how to overcome them.

(15 marks)