WI-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2023/2024
SEMESTER 1 EXAMINATION
PEH/TID 3101: DATA ANALYTICS, VISUALIZATION AND HEALTH INFORMATICS/COMPUTER APPLICATIONS IN HEALTH RESEARCH

DATE: AUGUST 2024   **TIME: 3 HOURS**

Question One (25 Marks)

1. By leveraging data, health researchers can make significant contributions to improving health outcomes.

    a) Discuss the ethical and legal considerations related to collecting, storing and sharing patient data in different formats (10 Marks)

    b) Suggest best practices for ensuring patient data privacy and security during data storage and transfer (15 Marks)

Question Two (25 Marks)

Research communication is a dynamic and cyclical process involving multiple steps from idea generation to the application of findings. Describe the various communication processes required in each step

(25 marks)

Question Three (25 Marks)

The internet offers access to a myriad information but some of them can be of questionable quality. Discuss the criteria that a research scientist could use to evaluate the internet for credible literature.

(25 marks)

Question Four (25 Marks)

Data plays a crucial role in health research by providing the foundation for making informed decisions. Discuss the data quality dimensions that a research scientist should evaluate while retrieving and processing data from datasets.   (25 marks)

Question Five (Marks 25)

In computer security, there are various threats and vulnerabilities that can compromise the integrity, confidentiality, and availability of information systems.

a) Define and differentiate between a threat and a vulnerability in the context of computer security (10 Marks).
b) Provide examples of three common threats and three common vulnerabilities in modern information systems. (15 Marks)

Question Six (25 Marks)

Data analytics encompasses a variety of techniques and approaches for analyzing data to extract meaningful insights, inform decision-making, and drive strategic initiatives. Discuss the various type of data analysis techniques giving relevant examples . (25 marks)

*************END ***********