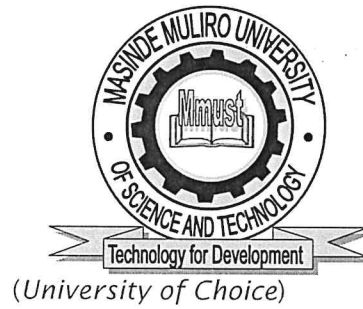


10



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR
SECOND YEAR SECOND SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
DOCTOR OF PHYLLOSOPHY IN MEDICAL LABORATORY
SCIENCE**

COURSE CODE: BMB 923

COURSE TITLE: COMPUTER APPLICATIONS

DATE: 26.04.2023

TIME: 8.00 – 11.00

INSTRUCTIONS TO CANDIDATES

Answer question **ONE** and any other 3 questions.

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

Question One

a) Computers in medicine emerged as a young discipline in the 1960s. Basing on various dynamics of technology, describe some of the milestones of the technology in the field of Medicine from then up to date (10 marks)

b) Using suitable examples describe Biomedical Informatics and explain how it has impacted on the lives of individuals (10 marks)

Question two

a) Application areas in information Technology broadened in recent years to include biological sciences, imaging, and other biomedical domains, how has this impacted on service delivery in the health sector (10 marks)

b) Biomedical Informatics deals with the storage, retrieval, sharing, and optimal use of biomedical information, data, and knowledge for problem solving and decision making. Using examples explain this statement putting emphasis on the health information systems as utilized in health Institutions (10 marks)

Question three

a) Discuss the advantages and disadvantages of using the Internet as a platform for health care applications (Use Relevant examples in each case) (10 marks)

b) Using illustrations discuss how Health Information Exchange (HIE) and Nationwide Health Information Network (NHIN) impact health care delivery and the practice of health care providers (10 marks)

Question four

a) Identify how ongoing developments in biomedical informatics can affect future uses and challenges related to health information systems (10 marks)

b) Using illustrations, describe the Relationship of Medical Informatics and Bioinformatics (10 mark)

Question Five

a) Increasing recognition that biomedical problems can drive the development of basic theory and capabilities in information technology research. Discuss (10 marks)

b) Although projects are inspired by biomedical application goals, basic research in biomedical informatics typically:

–offers methodological innovation, not simply interesting programming artifacts

–generalizes to other domains, within or outside biomedicine. What is your view on this statement?