



**MASINDEMULIROUNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE MEDICAL BIOTECHNOLOGY  
MAIN EXAMINATION**

**COURSE CODE: BMB 824**

**COURSE TITLE: BIO-INFORMATICS AND BIO-COMPUTING**

**DATE: 13/01/2022**

**TIME: 11.00 AM -2.00 PM**

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**INSTRUCTIONS TO CANDIDATES**

This paper is divided into three sections, **A B** and **C**, carrying respectively: Multiple Choice Questions (**MCQs**), Short Answer Questions (**SAQs**) and Long Answer Questions (**LAQs**).

**TIME: 2 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

1. Discuss the various applications of Bioinformatics in research marks}

{25

**Choose any 3 Questions**

2. Discuss the procedure you would follow in performing a BLAST query search on the NCBI database. {25 marks}
3. a. Briefly compare and contrast the BLAST and FASTA tools for sequence alignment. {15 marks}  
b. Differentiate between Accession code and Identifiers {5 marks}  
c. Describe any Bioinformatics application related to drug discovery {5 marks}
4. Discuss the different types of Bioinformatics databases {25 marks}
5. The field of Bioinformatics provides several data-mining software that retrieves data from genomic sequence databases and also visualization tools to analyze and retrieve information from proteomic databases. Discuss any Bioinformatics tools designed for extracting the meaningful information from the mass of data {25 marks}