



(University of Choice)

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

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

YEAR ONE SEMESTER ONE EXAMINATIONS

**MAIN EXAM
FOR THE DEGREE
OF
MASTER OF SCIENCE IN BIOINFORMATICS**

COURSE CODE: SBB 810

COURSE TITLE: BIOINFORMATICS

DATE: MONDAY, 10TH JANUARY 2022 TIME: 8:00 – 11:00 A.M.

INSTRUCTIONS TO CANDIDATES

Answer any SIX questions

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

1. Discuss the role of bioinformatics approaches used in understanding of the molecular mechanisms of antimicrobial resistance. [10 Marks]
2. Discuss the role of Bioinformatics in predictive/personalized medicine: [10 Marks]
3.
 - a. Discuss the various fields related to Bioinformatics [10 marks]
 - b. Bioinformatics is a frontier science of the 21st century. Discuss the applications of Bioinformatics in clinical and basic science research [10 marks]
4. Using a flow chart diagram, discuss the various applications of sequence analysis. [10 marks]
5. Discuss the steps in genome assembly and sequence annotation workflow [10 marks]
6. Discuss ENTREZ as a method for searching, indexing and cross-referencing in Bioinformatics [10 Marks]
7. Give a detailed description of the various categories of Biological Databases and their relevant in Bioinformatics [10 marks]
8. Discuss the role of artificial intelligence and machine learning in bioinformatics drug discovery and repurposing [10 marks]