



(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE
OF
MASTER OF SCIENCE BIOMEDICAL SCIENCES (MEDICAL
BIOTECHNOLOGY)

MAIN EXAM

COURSE CODE: BMB 821

COURSE TITLE: MOLECULAR BIOTECHNOLOGY AND
NANOTECHNOLOGY

DATE: 20/04/2022

TIME: 12.00 -2.00 PM

INSTRUCTIONS TO CANDIDATES

This paper has five questions, you are required to answer FOUR questions. Question ONE is compulsory. Choose any other 3 questions.

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

Compulsory

1. a) Give a detailed account of the structure of nucleic acids. (14 Marks).
- b) Describe the following promoter elements: (11 Marks).
 - i. The TATA Box
 - ii. The GC Box
 - iii. The CAAT Box

Choose any 3 Questions

2. a) Briefly describe DNA replication. (12.5 Marks).
- b) Describe RNA processing. (12.5 Marks).
3. Discuss the mapping for genetic disorders on physical and genetic maps. (25 Marks)
4. Describe medical applications of nanotechnology. (25 Marks).
5. Discuss chromosomal abnormalities giving some examples of clinical consequences. (25 Marks).