



(University of Choice)

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

MAIN CUMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

END OF SEMESTER PRACTICAL EXAMS

FOR THE DEGREE

OF

BACHELOR OF MEDICAL BIOTECHNOLOGY

THIRD YEAR

COURSE: PRACTICUM 1

CODE: MLB 300

DATE: 13/04/2022 TIME: 3hrs

INSTRUCTIONS TO CANDIDATES

Answer all questions

Leave your work on the bench for the examiners to view

MMUST observes ZERO tolerance to examination
cheating

1. Identify the following MB1, MB2, MB3, MB4 and MB5. **(10 Marks)**

2. You are provided 5X Tris borate EDTA stock buffer labelled TBE 5X.
 - b) Show calculations for preparation of 500 ml working buffer (1x) **(10 marks)**
 - a) prepare the above working buffer **(10 marks)**

3. Using the above working buffer and agarose powder provided prepare and cast 100 ml of 0.8% gel. **(20 Marks)**
 - 4a) You are provided with DNA sample and loading buffer/loading dye, Load the sample in the above gel and run at 100 V, 300 mA for 45 minutes **(25 marks)**
 - b) Visualize the gel on a UV transilluminator (inform the technologist), take a picture and Share with the technologist for marking **(15 marks)**
 - c) Interpret the results **(6 Marks)**
 - d) State 2 applications/uses of the above technique **(4 marks)**