



(University of Choice)

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

MAIN CAMPUS

**UNIVERSITY MAIN EXAMINATIONS
2021/2022 ACADEMIC YEAR**

FIRST YEAR SECOND SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
MASTERS OF SCIENCE IN MEDICAL LABORATORY SCIENCES**

COURSE CODE: BMM 825

COURSE TITLE: FOOD, WATER AND PUBLIC HEALTH MICROBIOLOGY

DATE: 26/04/2022

TIME: 2.00 -5.00 PM

INSTRUCTIONS TO CANDIDATES

This paper consists of three sections: five questions:

- i. Number one is compulsory, choose three questions from the remaining

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

Instructions: Answer question one and any other three questions

1.
 - a. What are the current challenges that affect the food safety? (10 marks)
 - b. Discuss how to prevent cross-contamination of food and foodborne illness (10 marks)
 - c. Discuss the four key important principles in food control (5 marks)

2.
 - a. By giving examples discuss two water based related diseases and two waterborne diseases (10 marks)
 - b. Give the steps of typical sewage treatment (10 marks)
 - c. By citing examples discuss coliforms as used as indicators? (5 marks)

3.
 - a. Discuss the elements of transmission cycle of disease (10 marks)
 - b. Discuss suggestions for enhanced public health against emerging infectious diseases? (10 marks)
 - c. What is biochemical oxygen demand (BOD) and how is BOD measured? (5 marks)

4.
 - a. What are the types of bioterrorism and the possible bacterial agent that can be used? (10marks)
 - b. The occurrence of an epidemic always signals some significant shift in the existing balance between the agent, host and environment; explain the various steps involved in investigation an epidemic? (10 marks)
 - c. Enumerate the objectives of epidemiology in public health? (5 marks)

5.
 - a. Describe the extrinsic factors that cause microbial growth in food? (5 marks)
 - b. Explain the principles of Hazard Analysis and Critical Control Point (HACCP) in food safety? (10marks)
 - c. Explain various infection prevention and control measures that should be practiced in relation to hospital acquired infections (10 marks)