



*(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 826**

**COURSE TITLE: FOOD, WATER AND PUBLIC HEALTH MICROBIOLOGY**

**DATE: 27/04/2022**

**TIME: 12.00 -2.00 PM**

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**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)