



## **MASENO UNIVERSITY**

### **UNIVERSITY EXAMINATIONS 2016/2017**

**FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN MEDICAL  
LABORATORY SCIENCE WITH INFORMATION TECHNOLOGY**

### **MAIN CAMPUS**

### **PML 421: FOOD AND WATER MICROBIOLOGY**

Date: 27<sup>th</sup> July, 2017

Time: 12.00 - 3.00 pm

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#### **INSTRUCTIONS:**

- Answer ALL questions in SECTION A and TWO questions in SECTION B



**Section A: Answer ALL Questions (40 Marks).**

1. State **five** (5) keys to safer food as outlined by World Health Organisation (WHO) **5 mks**
2. Write short notes on **three** (3) basic heat treatment methods used in food preservation **5 mks**

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3. List **five** (5) gram positive bacteria involved in food-borne infections and intoxications **5 mks**
4. State common features of coliforms **5 mks**
5. Outline the principle of dye reduction test as used in the bacteriological quality analysis of milk **5 mks**
6. Briefly, outline food-borne intoxications **5 mks**
7. State any **five** (5) characteristics of indicator organisms used in water microbiology **5 mks**
8. Define mycotoxins and state **two** (2) microorganisms which produce mycotoxins **3 mks**
9. Name any **two** (2) viruses responsible for food-borne illness **2 mks**

**Section B: Answer Two (2) questions (30 Marks). Question 10 is compulsory.**

10. Outline the Most Probable Number (MPN) technique as used in bacteriological water quality analysis **15 mks**
11. Discuss legal aspects of food technology **15 mks**
12. Discuss factors influencing growth of microorganisms in food **15 mks**