



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2020/2021 ACADEMIC YEAR  
THIRD YEAR SECOND SEMESTER**

**SCHOOL OF NATURAL RESOURCE, TOURISM  
AND HOSPITALITY**

**BACHELOR OF ENVIRONMENTAL STUDIES  
(BIOLOGY AND HEALTH)**

**COURSE CODE: EBH 3226**

**COURSE TITLE: MEDICAL MICROBIOLOGY**

**DATE: 15<sup>TH</sup> OCTOBER, 2021**

**TIME: 8:30-10:30 AM**

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## **INSTRUCTIONS TO CANDIDATES**

Answer **ALL** questions in section **A** and any other **THREE** in section **B**.

*This paper consists of 2 printed pages. Please turn over*

## **SECTION A – 25 MARKS**

1. Highlight on the microorganisms that are antibiotic producers **(4 marks)**
2. Describe type of drug resistance **(4 marks)**
3. Outline mutation and various types of mutation **(2 marks)**
4. Elaborate the significance of normal flora bacteria in the human body **(4 marks)**
5. Explain the bacterial growth curve and how it relates to the development of disease symptoms **(5marks)**
6. Outline the biochemical test used to identify bacteria **(4 marks)**

## **SECTION B – 45 MARKS**

7. Discuss the specimen processing and laboratory identification of the pathogenic species of staphylococcus **(15 marks)**
8. Discuss the etiology, pathogenesis, diagnosis and prophylaxis of typhoid fever **(15 marks)**
9. Discuss the importance of microbial water analysis and its application in public health **(15 marks)**
10. Discuss pathogenesis, laboratory diagnosis and clinical staging of Human Immunodeficiency Virus (HIV) infection **(15 marks)**
11. (a) Describe a vaccine and explain how it works **(3 marks)**  
(b) Compare and contrast live and killed vaccines **(8 marks)**  
(c) Discuss four routes of vaccines administration **(4 marks)**