



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2019/2020 ACADEMIC YEAR  
SECOND YEAR FIRST SEMESTER**

**SCHOOL OF NATURAL RESOURCES & ANIMAL  
SCIENCES**

**BACHELOR IN ENVIRONMENTAL MANAGEMENT**

**COURSE CODE: EBH 2215**

**COURSE TITLE: GENERAL MICROBIOLOGY**

**DATE: TUESDAY 3<sup>RD</sup> DECEMBER, 2019**

**TIME: 1100 – 1300 HRS**

---

## **INSTRUCTIONS TO CANDIDATES**

Answer **ALL** questions in **Section A** and any other **TWO** questions in Section B

**SECTION A: ANSWER ALL QUESTIONS (30MARKS)**

1. Define the following terms **(3marks)**
  - a. Innate immunity
  - b. Adaptive immunity
  - c. Mutualism
2. Outline three difference between eukaryotic and prokaryotic genome **(3mark)**
3. Distinguish the following terms as used in microbiology: **(3mark)**
  - a. Anabolism and catabolism
  - b. Obligate aerobes and facultative anaerobes
4. Describe the similarities between the glycolysis and fermentation **(3marks)**
5. List three habitats of microbes based on temperature **(3marks)**
6. Name three products of krebs cycles **(3marks)**
7. Define and explain phagocyte and phagocytosis **(4marks)**
8. List three stages of inflammation **(3marks)**
9. Name three industrial microbiology application of fermentation **(3marks)**
10. State three isolation techniques that are used are used in microbiology **(3marks)**

**SECTION B: ANSWER ANY OTHER TWO QUESTIONS (40 MARKS)**

11. Describe the chemical reaction involved in glycolysis **(20marks)**
12. Discuss the mechanism of genetic recombination in microbes **(20marks)**
13. With examples explain the symbiotic interaction between organisms and other microbes **(20marks)**
14. Using illustration, describe phases of bacteria growth curve **(20marks)**