



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR**

### **SECOND YEAR SECOND SEMESTER SUPPLEMENTARY/SPECIAL EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF EDUCATION (SCIENCE)**

**COURSE CODE: SBL 222**

**COURSE TITLE: GENERAL MICROBIOLOGY**

**DATE: 20<sup>TH</sup> JANUARY 2022      TIME: 2.00 – 4.00 PM**

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#### **INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

**TIME: 2 Hours**

This paper consists of 3 printed pages. Please Turn Over



**KIBU observes ZERO tolerance to examination cheating**

### **QUESTION ONE**

- a) Distinguish between Gram positive and Gram negative bacterial cell walls. (4 Marks)
- b) Name four scientists and their contributions to Microbiology. (4 Marks)
- c) State four properties that define a virus. (4 Marks)
- d) Distinguish between septate hyphae and aseptate hyphae. (4 Marks)
- e) What is Microbiology? (2 Marks)
- f) Outline four physiological characteristics in cells during the stationary phase of a bacterial growth. (4 Marks)
- g) Describe the mode of nutrition in algae. (4 Marks)
- h) Using relevant examples, point out two applications of microbiology in Agriculture. (4 Marks)

### **QUESTION TWO**

- a) Discuss the classification of culture medium based on their purpose. (10 Marks)
- b) Describe two methods of viral replication. (10 Marks)

### **QUESTION THREE**

- a) Describe six unique characteristics of fungi. (12 Marks)
- b) Write short notes on:-
- i. Mitochondrion (4 Marks)
  - ii. Cell membrane (4 Marks)

#### **QUESTION FOUR**

- a) Using relevant examples, point out the microbial activities in a nitrogen cycle. (10 Marks)
- b) Describe how the following factors affect microbial growth:-
- i. Oxygen (5 Marks)
  - ii. Temperature (5 Marks)

#### **QUESTION FIVE**

- a) Highlight six differences between prokaryotic cell and eukaryotic cell. (12 Marks)
- b) Classify fungi based on their mode of reproduction. (8 Marks)