



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

**BSFO, BSCH, BSEH**

**AAB 4106 : GENERAL MICROBIOLOGY**

**END OF SEMESTER EXAMINATION**

**SERIES: DECEMBER 2016**

**TIME: 2 HOURS**

**DATE:** Pick Date Dec 2016

## Instructions to Candidates

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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## Question ONE

- a) Define the following terms in the context of general microbiology;
- i) Resolving power
  - ii) Culture medium
  - iii) Mordant (3 marks)
- b) Describe microbiology as an applied biological science (3 marks)
- c) Draw a bacterial cell indicating four organelles that are NOT typical of all bacterial cells and outline their functions (6mrks)
- d) Distinguish between;
- i) Selective and enrichment media

ii) Simple and differential staining (6mrks)

e) Outline the grouping of bacteria on the basis of their temperature requirement for growth (6mrks)

f) Describe bacteria by their shapes and arrangement (6 marks)

### **Question TWO**

Discuss the role of microorganisms in the following;

a) Research (10 marks)

b) Health (10 marks)

### **Question THREE**

a) Describe how heat can be employed to control microbial growth (10 marks)

b) Describe how milk preservation is large dairy farm operations (10 marks)

### **Question FOUR**

Discuss the nutritional requirements of typical microbes for growth and reproduction. (20 marks)

### **Question FIVE**

a) Describe bacterial growth cycle from inoculation (15 marks)

b) Phylum Cyanobacteria were critical in the evolution of early life forms. Discuss (5 marks)