



# **Technical University of Mombasa**

*Faculty of Applied and Health Sciences*

DEPARTMENT OF **ENVIRONMENT AND HEALTH SCIENCE**

DIPLOMA IN COMMUNITY HEALTH AND HIV MANAGEMENT (DCHM 12S)

DIPLOMA IN ENVIRONMENTAL SCIENCES (DEH 12S)

DIPLOMA IN NUTRITION AND HEALTH (DNH 12S)

## **AAB 2105: GENERAL MICROBIOLOGY**

**SPECIAL/SUPPLEMENTARY: EXAMINATIONS**

**SERIES: FEBRUARY 2013**

**TIME: 2 HOURS**

### **INSTRUCTIONS:**

You should have the following for this paper

- *Answer booklet*

This paper consists of **FIVE** questions.

Answer Question **ONE (compulsory)** and any other **TWO** questions

*This paper consists of 2 PRINTED pages*

### **Question ONE**

- a) Cellular organisms are basically of 2 kinds based on their internal cell structure
  - (i) Name the 2 kinds of cell. **(1mark)**
  - (ii) Compare the 2Kinds of cell **(6marks)**
- b) Explain the functional and structural difference between optical and electron microscopes.  
**(4marks)**
- c) (i) Draw a well labeled diagram of a prokaryotic cell showing the main structures. **(5marks)**  
(ii) Discuss the functions of each structure. **(5marks)**
- d) Describe the bacterial growth curve explaining each of the stages. **(9marks)**

### **Question TWO**

Briefly explain the intrinsic and extrinsic parameters that affect microbial growth. **(15marks)**

### **Question THREE**

- a) List SIX precautions to be observed while working in a microbiological laboratory. **(3marks)**
- b) Describe the care you would take while handling a microscope before and after use. **(4marks)**
- c) What are the steps and reagents used in the gram stain procedure? **(8marks)**

### **Question FOUR**

- a) Discuss the factors that affect the efficacy of both antibiotics and disinfectants. **(10marks)**
- b) What is the primary source of microorganisms? **(5marks)**

### **Question FIVE**

- a) Name the different forms in which carbon exists in nature. **(3marks)**
- b) Show how the forms above are linked “pathways and cycling” in the carbon cycle. **(12marks)**