

**TECHNICAL UNIVERSITY OF MOMBASA**  
**DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES**  
**DIPLOMA IN COMMUNITY AND HIV MANAGEMENT**  
**AAB 2104 – GENERAL MICROBIOLOGY**  
**SUPPLEMENTARY EXAMINATION**  
**SERIES: MAY 2016**  
**TIME: 2 HOURS**

**INSTRUCTIONS**

**•Answer question ONE [compulsory] and any TWO questions**

**SECTION A**

**Question ONE**

- (a) Explain the differences between a virus and bacteria. (4 marks)
- (b) State the contributions of the following scientists in the development of microbiology. (4 marks)
- (i) Lenwenhook
  - (ii) Luis Pasteur
  - (iii) Robert Koch
- (c) Distinguish between binary fission and budding in asexual reproduction. (5 marks)
- (d) Explain the meaning of the term sterilization. (4 marks)
- (e) State qualities of a good disinfectant. (6 marks)
- (f) Explain the Four risk groups of pathogens according to WHO. (4 marks)
- (g) State Four routes of infection. (4 marks)
- (h) State Four properties of fungi. (4 marks)
- (i) Explain the meaning of the following terminologies a used in microbiology:
- (i) Autotrophism (2 marks)
  - (ii) Heterotrophic (2 marks)
  - (iii) Phototrophic bacteria (2 marks)

## **SECTION B**

### **Question TWO**

Discuss the bacterial growth curve. (15 marks)

### **Question THREE**

(a) Draw a well diagram of a bacteria cell. (9 marks)

(b) Explain the function of the labelled parts. (6 marks)

### **Question FOUR**

Describe the following types of culture media used to cultivate organisms in the laboratory.

(i) Basic Media

(ii) Environment Media

(iii) Enriched Media

(iv) Selective Media

(v) Differential Media (15 marks)

### **Question FIVE**

(a) Describe the safety precautions in a microbiology Laboratory (6 marks)

(b) Describe the mode of actions of Chemical disinfectants. (7 marks)