



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY BTMBT 13S

AAB 4101 : INTRODUCTION TO MICROBIOLOGY

SEMESTER EXAMINATION

DECEMBER 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

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

QUESTION ONE

a) Define the following terminologies

- (i) Evolution
- (ii) Sterilization
- (iii) Mycelium
- (iv) Phototaxis
- (v) Virion

(5marks)

b) Briefly explain the phrase “Enrichment culture can only prove a positive, but not a negative”.

(5marks)

c) Define cells as machines and coding devices

(5marks)

- d) Define microbiology as a basic Biological and Applied Science (5marks)
- e) Describe bacterial chemotaxis (5marks)
- f) Describe the steps followed in Aseptic technique procedure. (5marks)

QUESTION TWO

With examples, discuss:-

- a) The recognized types of methanogenic pathways (10marks)
- b) The different methoanogenic habitats (10marks)

QUESTION THREE

Discuss the role of microorganisms in:-

- a) Food industry (10marks)
- b) Energy and environment (10marks)

QUESTION FOUR

- a) Discuss the role of temperature and oxygen on microbial growth (10marks)
- b) Discuss positive phototaxis as a microbial behavioural response (10marks)

QUESTION FIVE

- a) Describe bacterial growth cycle from inoculation (10marks)
- b) Viruses are not cellular, however, they form a major class of microorganisms, discuss. (10marks)