



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

SBT 2170 : MICROBIAL DIVERSITY

SPECIAL/SUPPLEMENTARY EXAMINATION

OCTOBER 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 terms
- (i) Parasporal body
 - (ii) Photoheterotrophy
 - (iii) Methanogenesis
 - (iv) Photophosphorylation
 - (v) Nitrification

(5 marks)

- b) Explain the possible effects of *Echerichia* sp. in the human intestinal tract springs. (5 marks)
- c) Explain how *Acidiamus* sp. is capable of surviving in aerobic and anaerobic solfataric springs (5 marks)
- d) Describe the role played by *Methanopyrus* sp. in the oceanic sediments (5 marks)
- e) Enlist the effects of *Wolbachia* bacteria on its insect hosts (5marks)
- f) Discuss the adaptation of *Coxiella burnnetti* as a causative agent of Q fever (5 marks)

QUESTION TWO

- a) Discuss the use of *Bacillus thuringiensis* in crop protection and control of animal diseases (10 marks)
- b) Discuss the role played by *Azotobacter* and *Azomonas* sp. in the agricultural sector (10 marks)

QUESTION THREE

- a) Describe the causative agent, multiplication in hosts and treatment of Leptospirosis (10 marks)
- b) Write short notes on the following genera:
- (i) *Ferroplasma* sp. (5 marks)
- (ii) *Ferroglobus* sp. (5 marks)

QUESTION FOUR

- a) Discuss the germ theory of disease as postulated by Koch (10marks)
- b) Describe the downfall of spontaneous generation (10 marks)

QUESTION FIVE

- a) Outline the common distinguish characteristics of Algal groups **(10 marks)**
- b) Briefly describe the economic importance of fungi **(10 marks)**