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 12S

AAB 4201 : BACTERIOLOGY

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 terms

        (i)   Bacteriology   **(2marks)**

        (ii)   Prosthecatae   **(2marks)**

        (iii)   Methanogenic bacteria   **(2marks)**

        (iv)   Extreme Halophiles   **(2marks)**

        (v)   Thermoacidophiles   **(2marks)**

    b) List FOUR characteristics of the Genus Azospirillum   **(4marks)**

    c) Describe the out-standing characteristics of the genus Zoogloea and its economic application.   **(4marks)**

    d) (i) Name THREE species of bacteria in the genus brucella and the animals they infect.

                                                     (3marks)

      (ii)   Highlight how man get infected the disease and prevention from Brucella

(3marks)

  e) State the general characteristics of the Genus staphylocossus   **(6marks)**

QUESTION TWO

Discuss Archaeobacteria under the following:

(i)   Methanogens   **(8marks)**

(ii)   Extreme halophiles   **(9marks)**

(iii)   Thermoacidophiles   **(3marks)**

QUESTION THREE

  a) Outline the characteristics of the Genus Bacillus   **(5marks)**

  b) (i)   Name FIVE species in the Genus Bacillus and their pathogenic nature

      (ii)   Any special growth characteristics

(15marks)

QUESTION FOUR

  a) List the characteristics of the Family Enterobacteriaceae   **(6marks)**

  b) By use of relevant examples discuss the economic importance of the family in (a) above.
(14marks)

QUESTION FIVE

  a) Use relevant example to discuss

      (i)   Plant pathogens   **(4marks)**

      (ii)   Nitrogen fixing bacteria   **(5marks)**

  b) (i)   Explain how you can control mycoplasmas   **(3marks)**

      (ii)   State the characteristics of mycoplasmas   **(5marks)**

  c) Distinguish the Genus thermoplasma from Genus surfolobus.   **(12marks)**