



**TECHNICAL UNIVERSITY OF MOMBASA**

**SUPPLEMENTARY EXAM MARKING SCHEME**

**Class: Bachelor of Technology in Industrial Microbiology and Biotechnology**

**Unit Description: Microbial Diversity**

**Unit Code: AAB 4107**

**Time: 2 Hours**

- 1. a) Definition of terminologies**
- i) Sporozoa
  - ii) Prochlorophyte
  - iii) Methanogenesis
  - iv) Plastid
  - v) Korarchaeota **(5 mks)**
- b) Genus *Chloroflexus* is considered a hybrid phototroph. Explain **(5 mks)**
- c) Describe the salient features associated with *Thermocrinis ruber* **(5 mks)**
- d) Describe the distinguishing features of genus *Thermotoga* **(5 mks)**
- e) Explain how *Methanopyrus* sp. is adapted to its ecological habitat **(5 mks)**
- f) Enlist the morphological and physiological characteristics of genus *Aquifex* **(5 mks)**
- 2 Discuss the salient features of:**
- a) Purple non-sulfur bacteria **(10 mks)**
  - b) Purple sulfur bacteria **(10 mks)**
- 3 a) Discuss the economic importance of *Leptospira interrogans* **(10mks)****
- b) Briefly discuss the salient features of genus *Spirochaeta* **(10mks)**
- 4 a) Describe the role played by *Azotobacter* and *Azomonas* sp. in Agricultural sector **(10 mks)****
- b) Discuss the usage of *Bacillus thuringiensis* in crop protection and vector control **(10mks)**
- 5 a) Discuss the adaptation features and economic importance of *Coxiella burnetti* **(6 mks)****
- b) Describe the economic importance of:
    - i) *Borrelia burgdoferi* **(6 mks)**
    - ii) *Listeria monocytogenes* **(4 mks)**