

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN  
BOTANY**

**MICB 830: ENVIRONMENTAL MICROBIOLOGY**

**STREAMS: MSC BOTANY**

**TIME: 3 HOURS**

**DAY/DATE: WEDNESDAY 07/04/2021**

**8.30 P.M. – 11.30 A.M.**

**INSTRUCTIONS:**

- **Answer ANY THREE questions.**

**QUESTION ONE**

- (a) Discuss the factors affecting composting. (10 marks)
- (b) Discuss the process of biogas production. (10 marks)

**QUESTION TWO**

Discuss the stages of sewage treatment using microorganisms. (20 marks)

**QUESTION THREE**

- (a) Discuss the methods and use of immobilized cells in waste-water treatment. (10 marks)
- (b) Discuss the mechanisms of bio-deterioration of products by various microorganisms. (10 marks)

**QUESTION FOUR**

- (a) Classify microbial metabolism of pesticides. (10 marks)
- (b) Discuss common processes of insecticidal metabolism. (10 marks)

**QUESTION FIVE**

- (a) Describe mechanisms of heavy metal removal by microorganisms. (10 marks)
- (b) Discuss the methods of microbial leaching. (10 marks)