

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2019/2020**

**FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN MICROBIOLOGY (MAJOR) AND BACHELOR OF SCIENCE IN PLANT ECOLOGY AND ENVIRONMENTAL STUDIES**

**SBT 2446: APPLIED MICROBIAL ECOLOGY**

**DATE: DECEMBER, 2019 TIME: 2 HOURS**

INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

**QUESTION ONE: 30 MARKS**

a. Define the following terms:-

i. Cell. (2 marks)

ii. Detention time. (2 marks)

iii. Bioleaching. (2 marks)

b. Describe any three types of biofertilizers. (6 marks)

c. Highlight the mechanisms involved in biodegradation of xenobiotics. (6 marks)

d. Briefly describe the use of algae in waste management. (6 marks)

e. Outline the process of secondary waste water treatment. (6 marks)

**QUESTION TWO: 20 MARKS**

Discuss composting.

**QUESTION THREE: 20 MARKS**

Describe the process of biogas production.

**QUESTION FOUR: 20 MARKS**

Discuss biodegradation of plastics.