

W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2020/2021**

**THIRD YEAR SPECIAL/ SUPPLIMENTARY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MICROBIOLOGY**

**SBT 2410: ENVIRONMENTAL MICROBIOLOGY**

**DATE: MAY 2021 TIME: 2HOURS**

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

**QUESTION ONE (30 MARKS)**

a)i) Define microbial habitats. [3 marks]

ii) Outline ecological interaction between organisms in a community. [5 marks]

iii) State the role of decomposers in an ecosystem. [4 marks]

b) Describe the vertical stratification of a lake based on temperature. [6 marks]

c) Explain the following;

i) Energy flow in an ecosystem [2 marks]

ii) Chemolithotrophs [2 marks]

iii) Eutrophication [2 marks]

iv) Biofilms [2 marks]

v) Global warming [2 marks]

vi) Hdrothermal vents [2 marks]

**QUESTION TWO (20 MARKS)**

Discuss marine ecosystems

**QUESTION THREE (20 MARKS)**

Discuss microbial mining

**QUESTION FOUR (20 MARKS)**

Discuss petroleum biodegradation in the ecosystems.