

 W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2020/2021**

**SPECIAL/ SUPPLIMENTARY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOTECHNOLOGY/MICROBIOLOGY/BIOLOGICAL SCIENCE**

**SBT 2413: SECONDARY METABOLITES**

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

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

**QUESTION ONE (30 MARKS)**

a)i) Define the term fermentation. [1 mark]

 ii) What were the contributions of the following scientists in fermentation?

* Buchner [2 marks]
* Pasteur [2 marks]

 iii) In what ways can continuous fermentation result in the product being

 altered. [2 marks]

b) Explain why the following methods are effective in food preservation;

 i) Bottling [3 marks]

 ii) Salting [2 marks]

c)i) Define SCP [2 marks]

 ii) Name FOUR carbon sources for SCP production. [2 marks]

 iii) State SIX limitations in both production and use of SCP [6 marks]

di) Name the biological isoprene units. [1 mark]

 ii) State THREE economic importance of flavonoids. [3 marks]

 iii) State TWO roles of the inert rubber propylene in the human body.

 [2 marks]

e) What conflicts do Kenyan herbalists have with KEMRI that causes some to

 operate hidden in society. [2 marks]

**QUESTION TWO (20 MARKS)**

Discuss the production of Yoghurt.

**QUESTION THREE (20 MARKS)**

Discuss purification and recovery of secondary metabolites after fermentation process is completed.

**QUESTION FOUR (20 MARKS)**

Discuss how the activities of KEMRI have led to the improvement of health of Kenyans.