

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

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2018/2019**

**YEAR II SEMESTER II EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY**

**AFS 2209: FOOD CHEMISTRY II**

**DATE: APRIL 2019 TIME: 2 HOURS**

**INSTRUCTIONS:** Answer all questions in section A and any two in section B.

SECTION A

1. Discuss the health-promoting properties of carotenoids. (6 marks)

2. Discuss the key elements of the Shallenberg theory of sweetness. (6 marks)

3. Discuss the functions of sulfur dioxide in food systems. (6 marks)

4. Discuss the application of acid neutralization to retain chlorophyll in processed green vegetables. (6 marks)

5. Discuss the alteration that occur when chlorophyll is exposed to chlorophyllase and heat/acid with the aid of a clearly labeled diagram. (6 marks)

SECTION B

Discuss each of the following chemical properties of carotenoids

a. Oxidation

b. Anti oxidation activity

c. Cisltrans isomerization

7. Discuss the application of flour bleaching agents and bread improvers. (20 marks)

8. Discuss the changes that take place in carotenoid pigments under different processing and storage conditions. (20 marks)