

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN FOOD SCIENCE AND TECHNOLOGY

FOST 323: FOOD CHEMISTRY II

STREAMS: BSC (FOST) Y3S1

TIME: 2 HOURS

DAY/DATE: FRIDAY 07/12/2018

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS: Answer all questions in section A and any other TWO in section B

SECTION A

1. (a) Classify the essential mineral elements required by the human body. Give examples. [4 marks]
- (b) Describe the condition hypervitaminosis and the causes. [4 marks]
2. (a) Explain the general functions of minerals and trace elements [6 marks]
- (b) Use examples to explain food additives reported to cause adverse reactions [6 marks]
3. Explain the principal biological functions of zinc as a mineral [5 marks]
4. Describe the biological functions of vitamin A [5 marks]

SECTION B

5. (a) Discuss the macro element calcium under;
 - (i) Biological functions [6 marks]
 - (ii) Dietary sources and absorption [4 marks]
- (b) Discuss additives that amplify or promote sensory qualities [10 marks]
6. (a) Describe the roles played by Cholecalciferol and its dietary sources [10 marks]
- (b) Explain the biological functions and sources of Ascorbic acid [10 marks]

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7. (i) What is an ADI? [4 marks]
(ii) What is the purpose of an ADI [4 marks]
(iii) Based on EU regulation, how is the ADI is determined [8 marks]
(iv) Why is a safety margin necessary [4 marks]
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