

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF FOOD SCIENCE AND TECHNOLOGY**

FOST 221: PRINCIPLES OF HUMAN NUTRITION

STREAMS: FOST, BTOM

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 31/3/2021

8.30 AM – 10.30 AM

INSTRUCTIONS:

- Answer ALL Questions in Section A and any other two Questions in Section B.

SECTION A : ANSWER ALL QUESTIONS (30 MARKS)

1. Giving examples, differentiate between the following terms as used in human nutrition:
 - a. Essential and Non-essential nutrients [2 Marks]
 - b. Optimal nutrition and Overnutrition [2 Marks]
 - c. Essential fatty acid and Limiting amino acids. [2 Marks]
2. Briefly explain the classification of fibers and their significance to human nutrition and disease management. [6 Marks]
3. Discuss heme and non-heme iron and the factors that enhance iron absorption in the body. [6 Marks]
4. Outline the commonly used diet planning principles. [6 Marks]
5. Describe the process of fat digestion and absorption in the body. [6 Marks]

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

4. (a) Food and nutrition insecurity are common problems in Kenya. Discuss the causes and solutions to these problems. [12 Marks]

(b) Discuss the methods that can be used in assessment of nutritional status of a population. [8 Marks]

5. (a) Discuss why food processing is essential to human nutrition and health and identify some of the non-communicable disease that may result from consumption of processed foods. [10 Marks]

(b) Discuss the metabolic processes used by the body to get energy form carbohydrates. [10 Marks]

6. (a) Excess intake of micronutrients especially through supplements can result in toxicity. Using specific examples, discuss toxic effects originating from excessive intake of fat-soluble vitamins. [10 Marks]

(b) Discuss the occurrence of protein energy malnutrition among children and ways in which it can be prevented. [10 Marks]

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