



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**  
**FIRST YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR DEGREE OF**  
**BACHELOR OF SCIENCE IN FOOD SECURITY**  
**2022/2023 ACADEMIC YEAR**  
**REGULAR**

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**COURSE CODE: AAB 2103**

**COURSE TITLE: PRINCIPLES OF HUMAN NUTRITION**

**EXAM VENUE:** **STREAM: (BSc Food Security)**

**DATE:** **EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions**

- 1. Answer ALL questions in Section A (compulsory) and ANY TWO questions in Section B**
  - 2. Candidates are advised not to write on the question paper**
  - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**
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## **SECTION A [30 MARKS]**

**Answer ALL questions in this section**

1. Give three definitions of human nutrition. (3 marks)
2. Outline three functional categories of nutrients. (3 marks)
3. Distinguish between saturated fatty acids and poly-unsaturated fatty acids. (3 marks)
4. Differentiate between fats and oils, and name one health risk associated with increased fat intake. (3 marks)
5. Describe fate of keto-analogues arising from deamination of amino acids. (3 marks)
6. Give any three basic characteristics of vitamins. (3 marks)
7. Iron is an important component of hemoglobin. Give some symptoms of deficiency in humans. (3 marks)
8. Differentiate between Estimated Average Requirements (EARs) and Recommended daily Allowances (RDAs). (4 marks)
9. Give main function(s) of iodine in the human body. (2 marks)
10. Outline three disorders associated with excessive intake of alcohol. (3 marks)

## **SECTION B [40 MARKS]**

**Answer ANY TWO questions from this section**

11. Explore the digestive processes in the human body under the following headings:
  - a. Secretions of digestive tract (10 marks)
  - b. Digestion of carbohydrates (10 marks)
12. Describe the various methods of protein quality evaluation. (20 marks)
13. Kwashiorkor and Marasmus are two forms of malnutrition prevalent especially in developing countries. Highlight some differences between the two disorders. (20 marks)
14. Analyze factors that influence food choices. (20 marks)