

CHUKA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

### EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF EDUCATION (HOME SCIENCE)

#### HOSC131: INTRODUCTION TO FOOD AND NUTRITION

STREAMS: B.ED Y1S1

TIME: 2 HOURS

DAY/DATE: MONDAY 16/12/2024

8.30 A.M. – 10.30 A.M.

---

#### INSTRUCTIONS:

- Answer **ALL** questions.
- Do not write anything on the question paper.
- No reference materials are allowed in the examination room.
- **No** use of mobile phones or any other unauthorized materials.
- Write your answers legibly and use your time wisely.

#### SECTION A: SHORT ANSWER QUESTIONS (40 MARKS)

1. Explain the concept of "bioavailability" and provide two factors that can influence the bioavailability of nutrients. (4 marks)
2. Explain the relationship between nutrition and chronic disease. Use two specific examples to highlight the relationship. (4 marks)
3. Trace the journey of a carbohydrate molecule from ingestion to its final destination in the body. Briefly explain the key processes involved at each stage. (4 marks)
4. Explain the concept of cross-contamination in food safety? (2 marks)
5. Identify the role of antioxidants in nutrition and name two dietary sources. (3 marks)
6. Using suitable examples, explain the importance of personal hygiene and sanitation practices in food preparation and service, providing specific examples. (3 marks)
7. Identify three (3) essential vitamins and state their roles in human health (6 marks)
8. Identify three macronutrients and explain the primary function of each. (6 marks)
9. Explain two ways in which microorganisms can be beneficial in food production. (4 marks)
10. What is the difference between fat-soluble and water-soluble vitamins? Give two examples of each. (4 marks)

**SECTION B: LONG ANSWER QUESTIONS (30 MARKS)**

1. Food composition and dietary guidelines play a crucial role in promoting balanced nutrition.
    - a) Explain the concept of food composition tables and their importance in nutrition science. (4 marks)
    - b) Expound on three ways in which food composition data can be applied in meal planning and dietary management. (6 marks)
    - c) Discuss five key recommendations from current dietary guidelines and explain how each contributes to overall health. (10 marks)
  2. Food safety and hygiene practices are critical in preventing foodborne illnesses and ensuring public health.
    - a) Differentiate between food spoilage and food poisoning. (4 marks)
    - b) Expound on three causative agents of food poisoning. (6 marks)
-