

CHUKA



UNIVERSITY

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**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
HUMAN NUTRITION AND DIETETICS**

HNDS 241: FOOD SCIENCE AND TECHNOLOGY

STREAMS: HNDS

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 18/12/2024

2.30 P.M – 4.30 P.M

INSTRUCTIONS:

- **Answer ALL questions in Section A and any TWO in Section B**
- **Do not write anything on the question paper. All rough work to be done on the answer booklet and crossed through.**

SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

Question One

Differentiate between the following types of foods and give examples:

- (i) Perishable food and non-perishable foods **(3Marks)**
- (ii) Preserved foods and formulated foods **(3Marks)**
- (iii) Functional foods and medical foods **(3Marks)**

Question Two

Briefly discuss 10 factors that influence the choice of foods by consumers. **(10 Marks)**

Question Three

Differentiate between Modified Atmosphere Packaging and Active Packaging giving the pros and cons of each type **(11Marks)**

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

Question Four

- a) List and briefly explain eight (8) major causes of food spoilage? **(4 Marks)**
- b) Discuss how spoilage microorganisms cause changes in food under each of the following subheadings

- (i) Colour (3Marks)
- (ii) Texture (3 Marks)
- (iii) Flavour (4Marks)
- c) How does processing influence the rate and type of spoilage in foods (6 Marks)

Question Five

Briefly explain the following processes as used in food preservation

- i. Drying (5 Marks)
- ii. Pasteurization (5 Marks)
- iii. Sterilization (5 Marks)
- iv. Blanching (5 Marks)

Question Six

- a) Define a food additive, and give examples (3 Marks)
 - b) Differentiate between a direct and an indirect food additive (2 Marks)
 - c) Discuss the uses of additives in foods? (10 Marks)
 - d) How is the use of food additives regulated? (5 Marks)
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