

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

HNDS 242: FOOD PROCESSING AND PRESERVATION

STREAMS: HNDS (Y2S2)

TIME: 2 HOURS

DAY/DATE: THURSDAY 13/04/2023

2.30 P.M. – 4. 30 P.M.

INSTRUCTIONS

- Answer **All** questions
- Do not write anything on the question paper
- Mobile phones and any other written materials are **NOT** allowed in the examination room
- All your answers for section A should be on one page

SECTION A: MULTIPLE CHOICE QUESTIONS- ONE MARK EACH (10 MARKS)

1. Which of the following is an ultra-processed food?
 - a. Cheese
 - b. Bread
 - c. Butter
 - d. None of the above
2. Which of the following is not a process of thermal heat treatment?
 - a. Pasteurization
 - b. Canning
 - c. Blanching
 - d. None of the above
3. The enzymes below can cause undesirable changes in food quality except?
 - a) Peroxidase

- b) Lipoxygenase
 - c) Pepsinogen
 - d) All of them apply
4. Active packaging protects food against all of the following except?
- a. Vitamin degradation
 - b. Loss of pigment
 - c. Loss of protein
 - d. Microbial growth
5. Which of the following foods cannot be preserved by lactic acid fermentation?
- a. Tomato
 - b. Milk
 - c. Cabbage
 - d. Carrot
6. All of these are chemical preservatives except?
- a. Sodium nitrite
 - b. Ascorbic acid
 - c. Propionic acid
 - d. Sulfites
7. Degradation process in a food which affects its wholesomeness is known as?
- a. Spoilage
 - b. Unserviceability
 - c. Food deterioration
 - d. Off-condition
8. Salt can be used in the following preservation methods except?
- a. Chemical preservation
 - b. Freezing
 - c. Pickling
 - d. Drying
9. Drying of food works upon the following principles except?
- a. Reducing water activity
 - b. Destroy microbes

- c. Limit conditions of microbial growth
- d. None of the above

10. The following are effects of blanching except?

- a. Leaching
- b. Preserved food texture
- c. Spore destruction
- d. Enzyme deactivation

SECTION B: SHORT ANSWER QUESTIONS (20 MARKS)

- 1. Differentiate between: (6 Marks)
 - a. Food deterioration and spoilage
 - b. Primary and secondary food processing
 - c. Fermenting and pickling
- 2. Explain the following terms: (4 Marks)
 - a. Sterilization
 - b. Mechanical protection of processed product
- 3. Highlight two reasons why we process food (2 Marks)
- 4. Explain food deterioration by energy transfer (4 Marks)
- 5. Briefly explain any two methods of food dehydration (4 Marks)

SECTION C: LONG ANSWER ESSAY QUESTIONS (40 MARKS)

- 1. Explain water activity ad its application to food preservation (4 Marks)
 - 2. Discuss any four methods of freezing food (12 Marks)
 - 3. Discuss four emerging techniques of food processing/preservation (20 Marks)
 - 4. Describe the processes of freezing and thawing of a food product (4 Marks)
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