

NATIONAL UNIVESRITY OF LESOTHO
FACULTY OF HEALTH SCIENCES
B.Sc. NUTRITION
SUPPLEMENTARY EXAMINATIONS
NUT 2300– INTRODUCTION TO FOOD SCIENCE AND TECHNOLOGY

July 2023

100 marks

Time: 3 hours

Answer All questions. The mark for each part is shown in brackets.

Section A

(20 marks)

1. Choose the best correct answer:
 - i. Food science is a multi-disciplinary field, but this one does not form part.
 - a. Nutrition
 - b. Sensory evaluation
 - c. Food engineering
 - d. electronics
 - ii. Food poisoning can cause serious illness. Which groups of people are particularly at risk?
 - a. People who are elderly and middle-aged
 - b. People who are very young and elderly
 - c. People who are middle-aged and very young
 - d. People who are on a diet and very young
 - iii. ----- is not one of the quality aspects in food.
 - a. Food Safety
 - b. Nutrition
 - c. Processing technique
 - d. Color
 - iv. In a deep freezer, most food poisoning bacteria:
 - a. Are destroyed
 - b. Become dormant
 - c. Are not affected
 - d. Multiply quickly
 - v. Food premises must have adequate hand washing facilities. Which statement describes best practice?
 - a. Separate sinks for washing hands and equipment
 - b. Facilities for washing hands should only be in rest areas
 - c. Bars of soap and clean roller towels must be available
 - d. Water should be supplied at a maximum temperature of 8°C
 - vi. Which of the following is not an intrinsic factor in food spoilage?

- a. pH
 - b. Moisture content
 - c. Temperature
 - d. Physical Structure
 - vii. These are the segments in the food value chain:
 - a. Production, Processing, Retailing, Transport, Service
 - b. Production, Processing, Storage, Transport, Service
 - c. Processing, Retailing, Storage, Transport, Service
 - d. Processing, Transport, storage, Laboratory, Restaurant
 - viii. HACCP stands for:
 - a. Hazardous Actions Critical Concepts Plan
 - b. Hazard Analysis Critical Control Point
 - c. Hazard Actions Cautious Control Point
 - d. Hazard Analysis Control Center Plan
 - ix. The presence or growth of microorganisms is a type of:
 - a. Acid hazard
 - b. Physical hazard
 - c. Chemical hazard
 - d. Biological hazard
 - x. It is not what food security is about:
 - a. Access to food all the time
 - b. Safe and Nutritious food priority
 - c. Availability of well packaged food all the time
 - d. Affordability of food on market in terms of price.
2. For the following statements, indicate whether they are True or False,
- i. Food adulteration is very important action in food industries to ensure good nutrition.
 - ii. Chemical agents are the most worrying among others because they keep on increasing the concentration with time.

- iii. Hazard is any biological, chemical or physical agent present in food at the level at which it can cause health effects.
- iv. Food standards are mandatory, if you don't abide by them you will be fined.
- v. Food additives are broken down into six main categories, food preservatives being one of them.
- vi. Codex Alimentarius Commission is concerned about protecting the health of the consumers and facilitating international food trade.
- vii. *Listeria monocytogenes* is the physical hazard that can contaminate food like colonies.
- viii. Food processing is very crucial factor in achieving food security of all countries in the world.
- ix. Food Fortification is very important action to add preservatives in food to avoid food borne illness.
- x. High pressure food processing is one of the non-thermal modes of processing.

Section B

(80 marks)

Question 1

Define these terms as used in food science and technology; (10)

- a. Hazard
- b. Shelf-life
- c. Total Quality Management
- d. Food Value Chain
- e. Food Security

Question 2

Give the preservative mechanisms for the following Processing techniques; (12)

- a. Pasteurization
- b. Chilling
- c. Drying

d. Freezing

Question 3

Differentiate between the following; (10)

- a. Quality Control & Quality Assurance
- b. Food Contamination & Food Adulteration

Question 4

- a. Describe food fortification. (5)
- b. indicate within the food value chain, the application of food fortification explaining with examples throughout the segments. (10)
- c. State quality aspects of food products. (4)

Question 5

- a. Fill in the quality assessment tools indicated by the diagram below, a – d. (4)



- b. Describe the limitations in a – c. (8)
- c. In your own words describe why there are high cases of food borne illness caused by bacteria as compared to those caused by chemicals. (4)

- d. Explain any five reasons why there is increase frequency of foodborne diseases. (10)
- e. Give three regulatory categories in food laws. (3)

... end ...