



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)
MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR**

MAIN EXAM

**FIRST YEAR FIRST SEMESTER EXAMINATIONS
FOR THE DEGREE
OF
BSC. HUMAN NUTRITION AND DIETETICS
&
BSC. HOSPITALITY AND INSTITUTIONAL MANAGEMENT**

COURSE CODE: PND 113/ HND 106

COURSE TITLE: FOOD SAFETY, HYGIENE AND SANITATION

DATE: 8/12/2023

TIME: 12:00-2:00 PM

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in SECTION A and B
Answer only **TWO** questions in SECTION C
Read additional instructions under various sections

TIME: 2Hours

MMUST observes **ZERO** tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

SECTION A: 10 MULTIPLE CHOICE QUESTIONS EACH 1 MARK –TOTAL 10MARKS

1. Which of the following is **NOT** a purpose of GMP?
 - A. Prevents harm from occurring to the end user.
 - B. It prescribes exact instructions on how to manufacture products.
 - C. It ensures that food is consistent in its manufacture and that its manufacture has been well documented,
 - D. It ensures that personnel are well trained and that the product has been checked for quality more than just at the end phase.
2. Frozen storage is generally operated at temperature of:
 - A. 0°C
 - B. -18°C
 - C. -50°C
 - D. -60°C
3. Propionic acid is a chemical preservative used as a
 - A. anti bacterial agent.
 - B. mould inhibitor in bread.
 - C. Anti coagulation agent.
 - D. stabilizer.
4. Which of the following is safe storage temperature for dairy foods?
 - A. 10 °C
 - B. 1-5 °C
 - C. 1-3 °C
 - D. 4-8 °C
5. Which of the following conditions are ideal for growth of bacteria?
 - A. Warm, moist, and near-neutral pH
 - B. Cool, dry, and alkaline
 - C. Cool, dry, and acidic
 - D. Very hot, wet, and neutral
6. It is an illness caused by consuming contaminated food or beverage.
 - A. Toxicoinfection
 - B. Pandemic
 - C. Foodborne illness
 - D. Outbreak
7. Food borne illness often caused by contaminated chicken eggs is _____
 - A. Cholera
 - B. Salmonellosis
 - C. Shigelosis
 - D. Gastroenteritis
8. The easiest microbial forms to kill or inhibit are?
 - A. Spores
 - B. Virus
 - C. Vegetative cells
 - D. None of the above
9. Aflatoxins are toxins that are harmful to humans and are produced by what fungi?

- A. *Aspergillus flavus*
- B. *Rhizopus oligosporus*
- C. *Fusarium*
- D. *Xeromyces bisporus*

10. Examples of cross-contamination are:

- A. liquids from raw meat drip onto vegetables for salad.
- B. raw meat is cut on the same cutting board as cabbage.
- C. food worker handles raw shellfish then assembles vegetable salad without washing hands.
- D. all of the above.

SECTION B: ANSWER ALL QUESTIONS, EACH QUESTION, 5 MARKS (20 MARKS)

11. Define the following terms. [5 MARKS]

- a. Kenyan Standard
- b. Food hygiene
- c. Food Hazards
- d. Food poisoning
- e. Pathogens

12. Outline **FIVE** benefits of food hygiene. [5 MARKS]

13. Highlight **FIVE** resultant outcomes of poor hygiene. [5 MARKS]

14. List **FIVE** Factors affecting microbial growth. [5 MARKS]

SECTION C: ANSWER ANY TWO QUESTIONS; EACH QUESTION 15 MARKS (30 MARKS)

15.

- i. Outline **THREE** microbes of interest in food safety and hygiene. [3 marks]
- ii. Discuss **SIX** factors affecting microbial growth. [12 marks]

16. Describe the Standards on food premises and equipment related to the following areas;

- i. Staff toilets [3 marks]
- ii. Refuse control [3 marks]
- iii. The design of a food premises [3 marks]
- iv. Ventilation [3 marks]
- v. Food storage and display [3 marks]

17.

- a. Define HACCP. [1 marks]
- b. Discuss the **SEVEN** principles of HACCP. [14 marks]