



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

MAIN CAMPUS AND KAKUMA CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FIRST YEAR SECOND TRIMESTER

MAIN EXAMINATIONS

FOR THE DEGREE

OF

BSC. HUMAN NUTRITION AND DIETETICS

COURSE CODE: HND 107/BHM 204

COURSE TITLE: FOOD SAFETY AND SANITATION

DATE: 26/04/2022

TIME: 3.00-5.00 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 4 Printed Pages. Please Turn Over.

SECTION A (10 MARKS)

This section consists of 10 questions of one mark each. Answer all questions in this section by choosing the correct answer from the options provided under each question.

1. The following statement is **TRUE** about parasitic hazards:
 - A. They cause fever and abdominal discomfort, followed by jaundice
 - B. They need a host to survive
 - C. They are classified as spore-forming and non-spore forming
 - D. They result in production of toxic levels of histamine and related compounds
2. The following are viral hazards **EXCEPT**.
 - A. Norovirus
 - B. Hepatitis A
 - C. Hepatitis B
 - D. Hepatitis E
3. HACCP has _____ number of principles:
 - A. Seven
 - B. Six
 - C. Five
 - D. Ten
4. The food standard that deals with how the product should be produced is known as:
 - A. Process standard
 - B. Product standard
 - C. Information standard
 - D. Mandatory standard
5. The standard that contains the overall guidelines for food safety management and sets out requirements for a food safety management system is:
 - A. ISO 22000:2015
 - B. ISO 2200: 2015
 - C. ISO 9001: 2005
 - D. ISO 22000:2005
6. Which of the following statements **BEST** describes food safety?
 - A. It is a scientific discipline referring to public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage
 - B. It refers to handling, preparing and storing food in a way to best reduce the risk of individuals becoming sick from foodborne illnesses.
 - C. It is a word used to describe sanitary principles for the preservation of health
 - D. It is a national concern that covers a variety of different areas of everyday life
7. The following statement describes one-step-back traceability:
 - A. Traceability between the received unit (or raw material unit) and the sold unit (or product unit) at the food operator level

- B. Ability to identify the buyer of the units they have sold
 - C. Traceability throughout the food chain
 - D. Ability to identify the supplier of the units they have received
8. Traceability in agriculture and the food industry sector is applied mainly to two combinations. Which are they?
- A. Product/process and product/localization
 - B. Product/process and product/distribution
 - C. Food/process and product/localization
 - D. Product/process and food/localization
9. Which of the following is **TRUE** about bacteria?
- A. Bacteria grows faster and multiplies in cold environments
 - B. Every type of bacteria will cause food poisoning
 - C. Bacteria need air to survive
 - D. By freezing food, you can kill bacteria
10. The following are benefits of ISO standards **EXCEPT**:
- A. They are strategic tools for minimizing waste
 - B. The break barriers to international trade
 - C. They help prosecute those who are found culpable
 - D. They ensure that products are safe and of good quality

SECTION B:

This section consists of 5 questions of 6 marks each. Total 30 marks. Answer all the questions in this section

11. Explain how the following aspects of personal hygiene of a food handler can help to prevent food contamination:
- a) Handwashing (2mks)
 - b) Health (2mks)
 - c) Clothing (2mks)
12. Enumerate any 3 symptoms of food infection/intoxication as a result of the following bacteria
- i) Giardia lamblia (3mks)
 - ii) Norwalk virus (3mks)
13. Outline the principles of HACCP (6mks)
14. Identify any 6 aims/objectives of KEBS (6mks)
15. Differentiate between the 3 types of mycotoxins (6mks)

SECTION C

This section consists of THREE questions of 15mks each. Answer question ONE (compulsory) and ONE other question (total 30marks)

16. You have been employed as the food production manager in a five star hotel. You notice that the hotel does not regulate their sources of cereals and nuts.
- a) What kind of contamination would customers be exposed to? (2mks)
 - b) Identify the typical symptoms of the contamination (5mks)
 - c) Using traceability, discuss how you will help the hotel regulate the sources of cereals and nuts (8mks)
17. Food quality control is anchored in the Kenyan constitution.
- a) Identify 4 **MAIN** laws that regulate food in Kenya (4mks)
 - b) Highlight at least 3 provisions for each of the laws above (11mks)
18. An outbreak of food poisoning has occurred in a village neighbouring your campus. The outbreak is confirmed to be as a result of clostridium botulinum bacteria.
- a) Describe 3 conditions that could have contributed to the outbreak of food poisoning (3mks)
 - b) Identify the 5 signs/symptoms of botulism (5mks)
 - c) Explain 5 factors that will prevent further spread of botulism (7mks)