



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FIRST YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF MASTER OF SCIENCE IN FOOD SECURITY AND SUSTAINABLE
AGRICULTURE**

2023/2024 ACADEMIC YEAR

REGULAR

COURSE CODE: AFB 5123

COURSE TITLE: FOOD QUALITY, SAFETY AND RISK MANAGEMENT

Instructions

SECTION A

Answer all the questions

1. Briefly explain your understanding of the concept of food quality under the following sub-headings

- a). The concept of food quality encompasses a number of factors; identify these factors and briefly comment on the essence of each one of them (2.5 MARKS)
- b). Name the practices and procedures that must be implemented to ensure that food is safe for consumption (2.5 MARKS)
- c). What are the key steps and actions that are essential in the context of risk management in food systems (5 MARKS)

- 2a. Explain the main reasons for maintaining high standards of quality, safety and risk management in the food industry (3 MARKS)
- 2b. Discuss the significance of environmental impact in food production and value chain (3 MARKS)
- 3a. Reflect on the course objectives, identify one of the objectives and explain your understanding of the objective and explain what should be the scope; what are the challenges in realizing the objective. (2 MARKS)
- 3b. What solutions-oriented recommendations do you state from your thought process on the objective. (2 MARKS)

SECTION B

Answer any two questions (Each Question is 20 MARKS)

4. a). Describe factors that influence microbial growth in in foods
- b) i) identify three chemical hazards that may contaminate food
- ii) Describe the possible sources of these hazards in foods.
- iii). Discuss possible health effects that may arise from exposure to these chemical hazards
- vi) Explain the standard measures applied to prevent the occurrence contamination by these hazards (slide 15)
- 5a). i). Define the role of disease surveillance in monitoring food borne diseases
- ii). Describe the methods and steps in foodborne disease surveillance
- iii) Name three levels in disease surveillance systems
- 5) b). Explain the importance of food safety training for food handlers
- ii). Define components of effective food safety training programmes
- 6.) Explain following
- i) significance and key steps(approaches) in implementing quality control plan in food industry process
- ii). the purpose of and key steps in Hazzard Analysis and Critical Control Points (HACCP)
- iii). the purpose of quality metrics and indicators