



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES**

**DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES**

<b>QUALIFICATION: BACHELOR OF SCIENCE IN HORTICULTURE</b>	
<b>QUALIFICATION CODE: 07BHOR</b>	<b>LEVEL: 7</b>
<b>COURSE CODE: AVP720S</b>	<b>COURSE NAME: APPLIED VEGETABLE PRODUCTION</b>
<b>DATE: NOVEMBER 2022</b>	
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	Dr Edgar Mowa
<b>MODERATOR:</b>	Dr Fidelis Mwazi

<b>INSTRUCTIONS</b>
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

**PERMISSIBLE MATERIALS**

1. Examination question paper
2. Answering book

**THIS QUESTION PAPER CONSISTS OF 2 PAGES** (Excluding this front page)

1. Differentiate between the three (3) major areas of ergonomics and highlight how they apply to agriculture by giving examples. (3)
2. Mashare Irrigation scheme has encountered *Salmonella* in their vegetable produce, advice the Mashare Irrigation scheme Management on possible sources of the bacteria and why it is important for humans not to consume contaminated produce from *Salmonella*? (4)
3. Define the following terminologies: (4)
  - (a) Processed vegetables
  - (b) Vegetable irradiation
  - (c) Integrated Crop Management
  - (d) Ergonomics
4. Discuss the purpose of DNA sequencing and give three (3) current applications of DNA sequencing in Namibia. (4)
5. Describe the two (2) main strategies to prevent hazardous levels of bacterial contamination in fresh produce. (2)
6. Name a prominent pathogenic parasite associated with fresh produce and discuss its characteristics and its effect on human health. (6)
7. Name a bacterial pathogen of your choice associated with fresh produce and discuss its characteristics and its effect on human health. (6)
8. You are the scientific technician advising all Green-schemes on safety of their produce which have been failing standard tests lately. What are you going to point out as potential sources of on-farm contamination? (6)
9. You are consulted as a local scientist to provide technical support on a new multi-million dollar agricultural project for Namibia;
  - (a) What would you advice the project team leadership in terms of Integrated vegetable production management in order to minimize environmental impacts? (7)
  - (b) What will be the issues you are going to emphasize to the project team as those affecting vegetable production industries? (7)
  - (c) As part of processing harvested produce from this project, how will you process the following post-harvest; Tomato, cabbage, maize, potatoes, carrots, peas, beans, corn, beetroot, cucumbers? (8)
10. Briefly discuss the key components of Integrated Crop Management (8)
11. You have been assigned to appear on National television to advice the Namibian nation that is reluctant to use vegetable derived natural products, which key benefits are you going highlight in encouraging our community? (10)

12. Discuss the five (5) best practices to prevent microbial contamination while growing produce. (10)
13. Discuss the three (3) main sources of food safety hazards at production and strategies to minimize risk. (15)