



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH, NATURAL RESOURCES AND APPLIED SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES AND AGRIBUSINESS

QUALIFICATION: BACHELOR OF SCIENCE IN HORTICULTURE	
QUALIFICATION CODE: 07BHOR	LEVEL: 7
COURSE CODE: PPN610S	COURSE NAME: PLANT PROTECTION
DATE: JUNE 2025	PAPER: 1
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr Edgar Mowa
MODERATOR:	Dr Venaune Hepute

INSTRUCTIONS	
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number your answers clearly.	

PERMISSIBLE MATERIALS

1. Examination Question paper
2. Examination Answer booklet
3. Calculators

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

SECTION A: SHORT ANSWER QUESTIONS**[4 MARKS]****QUESTION 1:**

Define or explain the following terms used in plant protection with examples.

- i. Systemic insecticide [2]
 - ii. Post-emergence herbicide application [2]
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Question 2**[5 MARKS]**

1. Briefly, explain the impact of plant pests to the horticultural sector in Namibia. [5]
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Question 3**[24 MARKS]**

- a.) Name a plant disease of your choice and explain the aetiology and epidemiology of the disease and recommend appropriate recommended control measures. [20]
- b. Explain the importance of epidemiology in disease management? [4]
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Question 4**[10 MARKS]**

4. Using your own examples of pest/ disease and crop; explain how crop rotation can be used to control pest and plant diseases [10]
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Question 5**[5 MARKS]**

- a. Name four (3) advantages of using biological pest control methods. [2]
- b. List three (3) precautions to keep in mind when using chemical control measures. [3]
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Question 6**[2 MARKS]**

Tomato spotted wilt (caused by tomato spotted wilt virus) is generally considered a monocyclic disease of tomatoes. Explain what this means [2]

Question 7**[8 MARKS]**

Damping off is a disease that affects seedlings in the nursery.

- a. Describe the symptoms of damping-off on seedlings and factors favouring its development. [4]
 - b. Describe the integrated pest management of damping off in the nursery seed bed. [4]
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Question 8**[10 MARKS]**

5. a. What are three ways that a plant virus can be transmitted from one plant to another in a field? [3]
 - b. Why is management of plant viral diseases always based on prevention, rather than curing? [2]
 - c. A potato grower in Tsumeb sprayed his virus infected potato plants with a pesticide. Is the use of pesticide to manage viruses in the field a correct procedure? Yes or No. Justify your answer [2]
Suggest to the farmer any three strategies that he can use to prevent future outbreak of viral diseases in his potato field. [3]
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Question 9**[14 MARKS]**

- a. Explain why weeds are a problem in conservation agricultural systems? Explain in detail how you would address the problem. [6]

b. Weeds can be controlled by mechanical and biological methods. For each of these methods, describe the advantages and disadvantages of each [8]

Question 10

[4 MARKS]

Tuta absoluta is one of the most destructive pests in Namibia causing yield losses in potato and tomato production. What will be the disadvantages of using insecticide for controlling *Tuta absoluta* on potato [4]

Question 11

[10 MARKS]

As a horticulturalist responsible for production of quality tomatoes and potatoes at Mashare irrigation scheme, you have been using insecticides to control *Tuta absoluta* in potato fields for several years, but it's no longer effective. Explain two possible causes of what could have led to this development and discuss ways you would deal with such a situation [10]

Question 12

[4 MARKS]

6. Mention any four strategies that you would use to reduce the primary sources of inoculum of any pathogen of your choice [4]

END OF QUESTION PAPER