



GWANDA STATE UNIVERSITY
FACULTY OF NATURAL RESOURCES MANAGEMENT & AGRICULTURE
DEPARTMENT OF HORTICULTURE & CROP PRODUCTION
BACHELOR OF SCIENCE (HONOURS) DEGREE IN CROP SCIENCE
NHC 2202 & LCS 4202 BIOLOGY AND MANAGEMENT OF PLANT PATHOGENS
FINAL EXAMINATION PAPER

APRIL 2025

This examination paper consists of 2 pages, inclusive of cover page

Time Allowed: 3 hours
Total Marks: 100
Examiner's Name: Mr Musabayana

INSTRUCTIONS

1. Answer **ALL** questions in Section A
2. Answer **ONLY THREE** questions in Section B

MARK ALLOCATION

QUESTION	MARKS
SECTION A	40
SECTION B	60
TOTAL ATTAINABLE MARKS	100

SECTION A ANSWER ALL QUESTIONS

Question 1.

- (a) Discuss physical factors that affect spore germination? (10 Marks)
- (b) With an aid of a diagram, describe the pattern of epidemics of a polycyclic disease (10 Marks)

Question 2

- (a) Explain why bacteria are less important than fungi and viruses as plant pathogens (6 Marks)
- (a) With the aid of a diagram, describe the general characteristics of a bacteria? (14 Marks)

SECTION B ANSWER THREE QUESTIONS

Question 3.

With the aid of a diagram, illustrate three (3) types of hyphae (20 Marks)

Question 4.

Discuss pre- and post- infection defensive mechanism of plants against pathogens (20 Marks)

Question 5

- (a) Discuss two ways in which pathogens interact with each other (10 Marks)
- (b) . Discuss four forms of resistance in plants that occur in response to pathogen infection (10 Marks)

Question 6

- (a) Explore three methods by which a pathogen can invade a plant or its parts. Discuss three ways in which a pathogen can penetrate plant or plant part (15 marks)
- (b) Explain why relying solely on symptoms is insufficient for accurate disease identification. (5 Marks)

Question 7

Citing name examples, discuss five elements that contribute to spread and outbreak of infectious disease in a population (20 Marks)

END OF EXAMINATION