



GWANDA STATE UNIVERSITY
FACULTY OF NATURAL RESOURCES MANAGEMENT & AGRICULTURE
DEPARTMENT OF HORTICULTURE & CROP PRODUCTION
BACHELOR OF SCIENCE (HONOURS) DEGREE IN CROP SCIENCE
LCS 4102 & NHC2204 BIOLOGY AND MANAGEMENT OF PLANT PESTS
MAIN EXAMINATION PAPER

SEPTEMBER 2024

This examination paper consists of 3 pages, inclusive of cover page

Time Allowed: 3 hours
Total Marks: 100
Examiner's Name: Natasha Mbiza

INSTRUCTIONS

- i. Answer **ALL** questions in Section A
- ii. 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) Define moulting. [2]
- b) Outline factors affecting choice of formulation [10]
- c) Discuss 4 ways on how insects damage plants [8]

Question 2

Discuss **FIVE** functions of insect blood (haemolymph) [20]

SECTION B: ANSWER THREE QUESTIONS

Question 3.

- a) Define entomology [4]
- b) Discuss the statement that “insect pests are both beneficial and harmful”. [16]

Question 4.

Discuss the closed season or dead period as a tool in the management of pink bollworm in cotton in Zimbabwe [20]

Question 5

Discuss the economic importance of:

- a) Tomato leaf miner (*Tuta absoluta*) to the tomato industry in Zimbabwe [7]
- b) Fruit fly (*Bactrocera dorsalis*) to the citrus industry in Zimbabwe [6]
- c) Fall armyworm (*Spodoptera frugiperda*) to food security in SADC region [7]

Question 6

- a) Briefly describe the damage caused by any **FOUR** named insect pest of stored grain [10]
- b) Copy and complete the table below [10]

Common name	Scientific name	Damage symptom
African armyworm		
Red bollworm		
Cowpea bruchids		
Cotton mealybug		
Red gum lerp psyllid		

Question 7

As an expert on Plant protection, write an essay to guide the Government of Zimbabwe on the safe adoption of genetically modified crop varieties in the country [20]

END OF EXAMINATION