



GWANDA STATE UNIVERSITY
FACULTY OF NATURAL RESOURCES MANAGEMENT & AGRICULTURE
DEPARTMENT OF HORTICULTURE & CROP PRODUCTION
BACHELOR OF SCIENCE (HONOURS) DEGREE IN CROP SCIENCE
NHC 2203 WEED BIOLOGY AND MANAGEMENT
MAIN 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.

Citing name examples, discuss the classification of weeds according to the following criteria

- a. Plant morphology (4 Marks)
- b. Life-cycle and lifespan (4 Marks)
- c. Photosynthetic system (4 Marks)
- d. Habitats to which they are adapted (4 Marks)
- e. Origin of the weed species (4 Marks)

Question 2

- a. Explain the meaning of plant competition. (3 Marks)
- b. Distinguish between interspecific plant and intraspecific plant competition. (4 marks)
- c. Illustrating your answer explain the effect of increasing plant density per unit area on plant competition and on individual plant biomass and total biomass of plants in the population. (13 Marks)

SECTION B ANSWER THREE QUESTIONS

Question 3.

Citing named examples, discuss mechanisms of dispersal for weed species showing the importance of dispersal mechanisms used by weeds as invasive plants? [20Marks]

Question 4.

Discuss the main mechanisms of herbicide degradation after application in the soil and foliage of plants, citing named examples [20 Marks]

Question 5

Citing named examples, describe the physical, chemical, and biological processes that occur when herbicides are applied to the soil and relate them to the efficacy of the herbicides for weed management [20 Marks]

Question 6

Explain the term “Integrated Weed Management” and discuss how integrated weed management may be applied to manage weeds in the smallholder sector in Zimbabwe? (20 Marks)

Question 7

Examine why weeds pose a significant biotic challenge for smallholder farmers in Zimbabwe and propose practical solutions to address this issue. [20 Marks]

END OF EXAMINATION