



GWANDA STATE UNIVERSITY
FACULTY OF NATURAL RESOURCES MANAGEMENT & AGRICULTURE
DEPARTMENT OF HORTICULTURE & CROP PRODUCTION
BACHELOR OF SCIENCE (HONOURS) DEGREE IN CROP SCIENCE
WEED BIOLOGY AND MANAGEMENT
LCS 4106

First Semester Final Examination Paper

November 2023

This examination paper consists of 2 printed pages

Time Allowed: 3 hours
Total Marks: 100
Special Requirements: None
Examiner's Name: R. Mapuranga

INSTRUCTIONS

1. Answer any **two (2)** questions from section A and any **three (3)** questions from section B.
2. Start each question on a new page

MARK ALLOCATION

QUESTION	MARKS
EACH QUESTION	20
TOTAL ATTAINABLE MARKS	100

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SECTION A: WEED BIOLOGY AND ECOLOGY [ANSWER ANY TWO (2) QUESTIONS]

1. (a) Define the word “weed” [2]
(b) “All weeds are angiosperms, which flower and reproduce exclusively by seed”. [4]
Comment on the validity of the above quote.
(c) Outline the major characteristics of weeds [14]
2. (a) Distinguish between true and functional allelopathy [4]
(b) Identify the potential role of allelopathy in weed management [4]
(c) Write an account on the different weed classification methods [12]
3. (a) List the mechanisms of weed seed dormancy [4]
(b) Describe the influence or lack thereof of seed dormancy on weed management [4]
(c) Define the term weed seed bank, and outline the processes contributing to *deposits* and *withdrawals* of seed into/from the bank [12]

SECTION B: WEED MANAGEMENT [ANSWER ANY THREE (3) QUESTIONS]

4. (a) Determine the quantity of simazine 80WP to be sprayed in one hectare area if rate of application is 3 kg a.i. /ha [4]
(b) Outline the legislative measures that can be used to prevent weed problems in arable lands [16]
5. (a) List any six (6) mandatory information that should be included on a herbicide label in Zimbabwe [6]
(b) Discuss the various cultural weed management approaches that gives the crop a competitive advantage against weeds [14]
6. (a) Comment on the potential and application of microbial herbicides in weed control programmes [6]
(b) Outline how allelopathy can be used for weed management [14]
7. (a) Discuss the fate of a herbicide molecule on a plant surface [10]
(b) Define the term herbicide leaching, and discuss the factors that affect herbicide leaching in farmlands [10]

End of the Examination Paper

Ye shall know them by their fruits. Do men gather grapes of thorns [*weeds*], or figs of thistles? [Matt 7: 16]