

GWANDA STATE UNIVERSITY



FACULTY OF NATURAL RESOURCES MANAGEMENT AND AGRICULTURE

DEPARTMENT OF HORTICULTURE AND CROP PRODUCTION

PROGRAMME: BSc in CROP SCIENCE

LCS2205: PERENNIAL CROP PRODUCTION

FINAL EXAMINATION

APRIL– JUNE 2024

This examination paper consists of 3 pages,

Time Allowed: Three (3) Hours

Total Marks: 100

Special Requirements: pen, ruler.

Examiner's Name: **DUBE B**

Instructions

1. Answer **ALL** questions in Section A
2. Answer any **THREE (3)** 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) For the tea and coffee production, suggest five (5) characteristics that should be improved by plant breeders. **(10 marks)**
- b) Describe the four methods of coffee propagation. **(8 marks)**
- c) Define a perennial crop. **(2 marks)**

Question 2

- a) Explain the five (5) reasons for pruning perennial tree crops. **[10 marks]**
- b) Explain the five (5) constraints faced by smallholder farmers in the production of perennial crops. **(10 marks)**

SECTION B: Answer any THREE questions.

Question 3

- a) Describe the cultural practices carried out in banana production. **(12 marks)**
- b) Outline five types of citrus fruits. **(5 marks)**
- c) State 3 reasons for training tree crops. **(3 marks)**

Question 4

- a) Describe three (3) environmental impacts of sugarcane production. **(6 marks)**
- b) State four (4) ideal soil characteristics for cashew nuts production. **(4 marks)**
- c) Define silviculture. **(2 marks)**
- d) Describe three (3) internal characteristics determining the quality of oranges. **(6 marks)**
- e) State two (2) uses of pine in agriculture. **(2 marks)**

Question 5

- a) Describe the post-harvest processing of tea. **(12 marks)**

- b) Describe the four (4) advantages of a ratoon crop over the plant cane in sugarcane production. **(8 marks)**

Question 6

- a) State four (4) tea crop pests of economic importance **(4 marks)**
- b) Describe the sugarcane smut disease under the following:
- i) Causal organism **(2 marks)**
 - ii) Symptoms **(3 marks)**
 - iii) Disease management **(3 marks)**
- c) Explain how a gum tree plantation is established from seeds. **(6 marks)**
- d) State two (2) orange pests of economic importance **(2 marks)**