



ZIMBABWE

**MINISTRY OF HIGHER AND TERTIARY EDUCATION,
INNOVATION, SCIENCE AND TECHNOLOGY
DEVELOPMENT**

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL CERTIFICATE

IN

HORTICULTURE

MODULE: Horticulture Crop Propagation

PAPER NO: 331/22/M01

DURATION: 3 Hours

NOVEMBER/ DECEMBER 2025 EXAMINATION

REQUIREMENTS

Pen, Pencil, Ruler, Rubber

INSTRUCTIONS TO CANDIDATES

- 1. SECTION A is compulsory.**
- 2. Choose any four (4) questions from SECTION B.**
- 3. Each question carries equal (20) marks.**

This paper consists of 4 printed pages.

SECTION A

QUESTION 1

- a) Define the following propagation terms:
- | | | |
|------|-------------|-----------|
| i) | Media | (2 marks) |
| ii) | Germination | (2 marks) |
| iii) | Nursery | (2 marks) |
| iv) | Dormancy | (2 marks) |
| v) | Rootstock | (2 marks) |
- b) Outline methods by which one can break or overcome dormancy in plants.
(5 marks)
- c) Identify any three (3) layering techniques used in horticulture.
(3 marks)
- d) State two (2) horticulture crops which can be propagated using cuttings.
(2 marks)

SECTION B

QUESTION 2

- a) Discuss the role of hormones/plant growth regulators in propagation. (10 marks)
- b) Demonstrate how the following methods of propagation are conducted:
- i) Whip and tongue (5 marks)
 - ii) Approach grafting (5 marks)

QUESTION 3

- a) Define the term budding (2 marks)
- b) Describe the steps which are taken when performing T-budding and chip-budding (12 marks)
- c) Identify and explain any three (3) factors which determine the success of a graft (6 marks)

QUESTION 4

- a) Discuss how the following affects germination of seeds:
- i) Moisture (4 marks)
 - ii) Temperature (4 marks)
 - iii) Oxygen (4 marks)
- b) Describe the characteristics of the following types of cuttings
- i) Hardwood (4 marks)
 - ii) Softwood (4 marks)

QUESTION 5

- a) Discuss the various methods of sowing seeds used in horticulture. (16 marks)
- b) Outline the characteristics of a good nursery (4 marks)

QUESTION 6

- a) Assess the use of tissue cultures in the propagation of bananas in Zimbabwe (10 marks)
- b) Briefly explain the use of Gibberelins in propagation of horticulture crops (5 marks)
- c) Identify five (5) types of tissue cultures used in propagation. (5 marks)

.../tez