



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: 331/25/M01

DURATION: 3 Hours

JUNE 2026 EXAMINATION

REQUIREMENTS

Blue Pen, Pencil, Ruler, Rubber.

INSTRUCTIONS TO CANDIDATES

- 1. Answer all questions in SECTION A (40 marks).**
- 2. Answer any three (3) questions in SECTION B (60 marks).**

This paper consists of 3 printed pages.

SECTION A

Answer all questions (40 marks).

QUESTION 1

- a) Using the table below outline the summary of common fruit grafting and budding methods and their timing as shown below:

Fruit	Preferred Grafting method	Time of Year
Apple	e.g - whip and tongue - cleft grafting -T-budding	Late winter to early spring late summer
Pear	(1)	(1)
Peach/Nectarine	(1)	(1)
Plum	(1)	(1)
Cherry	(1)	(1)
Citrus	(1)	(1)
Mango	(1)	(1)
Avocado	(1)	(1)
Almond	(1)	(1)

1 mark each x 1 point (16 marks)

- b) Give any four (4) materials used for mushroom compost making. (4 marks)
- c) List any four (4) instruments used to check environmental conditions in mushroom production. (4 marks)
- d) Discuss the two (2) types of seed germination. (6 marks)
- e) Give any five (5) advantages and five (5) disadvantages of Asexual propagation. (10 marks)

SECTION B

Answer any three (3) questions (60 marks).

QUESTION 2

- a) Describe the following methods of sterilising the soil:
- | | |
|-------------------|-----------|
| i) Steaming | (6 marks) |
| ii) Baking | (6 marks) |
| iii) Solarisation | (6 marks) |
- b) Outline any two (2) types of cutting you have learned. (2 marks)

QUESTION 3

- a) Outline ten (10) characteristics of a high-quality planting medium. (10 marks)
- b) Give four (4) ways of preventing damping-off in cuttings. (4 marks)
- c) Outline suitable characteristics of a roofstock/budwood for propagation. (6 marks)

QUESTION 4

- a) With the aid of diagrams, explain the process of simple and serpentine layering. (10 marks)
- b) Demonstrate how air layering is done on fruit trees. (10 marks)

QUESTION 5

- a) Explain the procedure used to cultivate oyster mushroom. (10 marks)
- b) Outline the characteristics of a good ex-plant in tissue culture. (10 marks)

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