



1ST SEMESTER 2020/2021

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UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN HORTICULTURE LEVEL 1

COURSE CODE: HRT101

TITLE OF PAPER: PRINCIPLES OF HORTICULTURE

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

DO NOT OPEN UNTIL PERMISSION HAS BEEN GRANTED BY THE CHIEF
INVIGILATOR

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS**Question 1**

- a) It is believed that the birthplace of horticulture is Egypt. Describe the innovation by the ancient Egyptians that is even used today in horticultural production.
(5 Marks)
- b) What are the negative effects that were brought about by the transition from nomadic life of living to human settlement in horticulture? (5 Marks)
- c) Describe the suitability of the Kingdom of Eswatini in the production of horticultural crops.
(15 Marks)

[25 Marks]**Question 2**

- a) Why is any one parameter not good enough to demonstrate growth throughout the life of a flowering plant?
(5 Marks)
- b) Briefly, describe the following:
- i. Arithmetic and geometric growth (4 Marks)
 - ii. Differentiation and de-differentiation (4 Marks)
 - iii. Growth and development (4 Marks)
 - iv. Photoperiodism (4 Marks)
 - v. Vernalisation (4 Marks)

[25 Marks]**Question 3**

- a) Discuss how soil pH affects soil fertility and management.
(10 Marks)
- b) List any five (5) families of horticultural crops, and give an example of a crop under each by writing both the common and botanical names.
(15 Marks)

[25 Marks]

Question 4

- a) Which plant growth regulator would you use if you are asked to:
- i. induce rooting in a twig
 - ii. quickly ripen a fruit
 - iii. delay leaf senescence
 - iv. induce growth in axillary buds
 - v. 'bolt' a rosette plant
 - vi. induce immediate stomatal closure in leaves

(1x1=6 Marks)

- b) Discuss the causes of post-harvest losses of horticultural crops in developing countries, and how you would mitigate such losses.

(19 Marks)

[25 Marks]

Question 5

One of the most interesting areas of plant biotechnology is tissue culture and micro-propagation. Discuss the *pros* and *cons* of micro-propagation.

[25 Marks]