



2ND SEMESTER 2019/2020

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UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN HORTICULTURE YEAR 4

COURSE CODE: HRT404

TITLE OF PAPER: POST-HARVEST TECHNOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

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

- a) What is the significance of postharvest technology in the horticulture industry? Give examples. (10)
- b) Differentiate between physiological maturity and horticultural maturity? (10)
- c) List five (5) harvest maturity indices used by the citrus industry? (5)

[25]**Question 2**

- a) With the Coronavirus (COVID-19) pandemic continuing to spread globally, what effect do you think this might have on the post-harvest logistics of horticultural produce in Eswatini? (10)
- b) Graphically demonstrate the respiratory pattern of the following fruit types stored for 40 days at 15°C
- i) Banana (2.5)
 - ii) Pear (2.5)
 - iii) Apple (2.5)
 - iv) Avocado (2.5)
- c) List five (5) health and safety features that you expect to find in an accredited vegetable packhouse? (5)

[25]**Question 3**

- a) You are a post-harvest consultant for Namboard. During your pack-house audits in one of their pack-houses, you notice a diesel powered forklift, which they use to pack and offload the produce inside the cold rooms. Also inside their cold room you realize that baby marrows packed in crates is stacked side by side with apples. Upon further inspection you also notice some of the apples in one box are bruised. Explain the shortcomings of this storage system. (20)
- b) Describe five (5) factors affecting respiration rate? (5)

[25]

Question 4

- a) Describe five (5) types of packaging material used for horticultural commodity and give two (2) disadvantages for each. (15)
- b) Describe the following:
 - i) Modified atmosphere (MA) (3)
 - ii) Controlled atmosphere (CA) (3)
- c) Give two (2) examples of commercial ethylene scrubbers used in the horticulture industry. (4).

[25]**Question 5**

- a) Explain physiological defect in horticultural produce. (5)
- b) Give four (4) examples of physiological disorders and its associated horticultural commodity? (10)
- c) What precautions would you apply on stored cut flowers to avoid ethylene damage? (10)

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