



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

**FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR
THE DEGREE OF BACHELOR OF SCIENCE IN
HORTICULTURE AND AGRONOMY WITH
INFORMATION TECHNOLOGY**

MAIN CAMPUS

AAG 407: POSTHARVEST PHYSIOLOGY AND TECHNOLOGY

Date: 27th July, 2017

Time: 12.00 - 3.00pm

INSTRUCTIONS:

- Answer ALL Questions in sections A and any other THREE in section B.



AAG 407: POSTHARVEST PHYSIOLOGY AND TECHNOLOGY

Instructions:

- *The paper has two sections (A&B)*
 - *Attempt ALL questions in section A and any three (3) in section B*
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Section A (40 marks)

Q1.

- a). Distinguish between the following terms as used in postharvest technology:
 - i). Field heat and vital heat. **(2 marks)**
 - ii). Chilling and freezing injuries. **(2 marks)**
 - iii). Enzymatic browning and non-enzymatic browning. **(2 marks)**
 - iv). Intrinsic and extrinsic parameters of food products. **(2 marks)**
 - v). Ripening and senescence of fruits. **(2 marks)**
- b) Why
 - i). Are pears and apple fruits best suited to low humidity storage to check postharvest pathology? **(2 marks)**
 - ii). Is time of harvesting fresh produce critical to their postharvest physiology? **(2 marks)**
 - iii). Sodium bicarbonate is not commercially used to process/cook green vegetables despite its ability to enhance their retention of the green colour? **(2 marks)**
 - iv). Is pre-harvest calcium nutrition of fresh produce important to their postharvest pathology? **(2 marks)**
 - v). Is precooling (field heat removal) critical to postharvest physiology of fresh produce? **(2 marks)**

Q2.

Ethylene is a major plant hormone regulating postharvest life of fresh horticultural produce. Highlight:

- a) The biosynthetic pathway of ethylene. **(3 marks)**
 - b) Any three (3) methods of commercially applying ethylene to fresh produce. **(3 marks)**
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