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University Examinations 2013/2014

THIRD YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF

BACHELOR OF SCIENCE IN HORTICULTURE

AFP 2318 – POST HARVEST PHYSIOLOGY

DATE: DECEMBER 2013

TIME: 2HOURS

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE – 30 MARKS

- (a) State five (5) fruit maturity indices (5Marks)
- (b) Distinguish between destructive and non-destructive methods of assessing fruit maturity. (2Marks)
- (c) State five (5) plant physiological processes and corroborate their relationship with post harvest management. (5Marks)
- (d) State key compositional changes that take place during fruit ripening. (5Marks)
- (e) Distinguish between ripening and senescence. (4Marks)
- (f) Define the term fruit ripening. (2Marks)
- (g) Distinguish between shelf life and storage life. (2Marks)
- (h) State five (5) post harvest management practices critical in prolonging fresh commodity postharvest storage life. (5Marks)

QUESTION TWO – 20 MARKS

- (a) Elucidate on ethylene signal transduction pathway. (10Marks)
- (b) Discuss ethylene biosynthesis stating key enzymes that mediates the process. (10Marks)

QUESTION THREE – 20 MARKS

- (a) Substantiate on the following terms:
- (i) MA (5Marks)
 - (ii) CA (5Marks)
- (b) Explain the mechanism of I-MCP in fruit ripening. (10Marks)

QUESTION FOUR – 20 MARKS

Kenya is a major producer and exporter of avocado in Africa. However, over 40% of Kenyan avocado are lost due to poor postharvest management technologies.

- (a) Discuss key postharvest management practices in avocado. (10Marks)
- (b) Critique avocado value chain management in Kenya today stating advantages and disadvantages of critical pathways. (10Marks)

QUESTION FIVE – 20 MARKS

- (a) Compare and contrast avocado and mango fruit maturity and ripening. (10Marks)
- (b) Discuss both commodity postharvest disorders. (10Marks)