

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF
MASTERS IN SCIENCE IN HORTICULTURE**

HORT 855: POSTHARVEST PHYSIOLOGY OF HORTICULTURAL CROPS

STREAMS: MSc

TIME: 3 HOURS

DAY/DATE: WEDNESDAY 7/4/2021

2.30 PM – 5.30PM

INSTRUCTIONS:

Answer All Questions in Section 1 and any Two in Section II

SECTION 1: ANSWER ALL QUESTIONS (20 MARKS]

Q1.a) Describe briefly the factors that contribute to susceptibility of horticultural produce to disorders. [5 Marks]

b). Damage done to produce due to improper harvesting leads to shortening of shelf life. Explain [3Marks]

Q2.a) During grading the produce is separated into two or more grades. Briefly explain new innovation in grading systems that can be used in horticultural production. [5 Marks]

b). Horticultural produce is harvested over a wide range of physiological ages, that is, from a time well before the commencement of maturation through to the commencement of senescence. Outline the principles of harvest maturity. [4 Marks]

c). Farmers can use sensory ability in determination of maturity. Explain the limitations of using sensory indices to determine maturity. [3 Marks]

SECTION II (40 MARKS)

Q3.a) Discuss the computational and physical methods of judging maturity in horticultural production. [10 Marks]

b) Discuss the external and internal factors responsible for the respiration in horticultural produce management. [10 Marks]

Q4.a) Ethylene is a natural plant hormone released by all plant tissues and microorganisms and it plays an important role in ripening process. Discuss the ethylene biosynthesis. [10 Marks]

b). Discuss the effect of ethylene on quality attributes of horticultural produce. [10 Marks]

Q5.a) Discuss the biological factors that are responsible for deterioration of horticultural produce. [12 Marks]

b). Skin coating is an artificial application of a very thin film of wax or oil or other material to the surface of the fruits or vegetables as an addition to or replacement for the natural wax coating. Discuss the significance of wax application. [8 Marks]

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