Uva Wellassa University, Sri Lanka
End Semester Examination – March 2011
SCT 495-2 Seminar

Time: Two (02) hours

Total **18** questions.
Answer **08 (eight)** questions only.

1. Discuss the factors affecting Vitamin C content of horticultural crops. (25 marks)

2. Discuss the advantages and disadvantages of vacuum cooling technology in food processing industry. (25 marks)

3. Briefly describe how vitamins are lost during processing and preservation of food. (25 marks)

4. Briefly describe how various agricultural practices impact on levels of Total Phenolic and Ascorbic acid content of freeze-Dried and air-dried Marionberry, Strawberry and Corn. (25 marks)

5. Briefly discuss about antimicrobial *and* physicochemical properties of methylcellulose *and* Chitosan Films containing a preservative. (25 marks)

6. Briefly discuss the effect of fungicide treatments for late blight, on yield increments of potatoes in Argentina. (25 marks)

7. Discuss how high pressure processing affects Carotenoid extractability, antioxidant activity and water binding in tomato puree. (25 marks)

8. "Whey permeate is an efficient bio-preservative for shelf life maintenance of fresh-cut vegetables". Explain the statement.

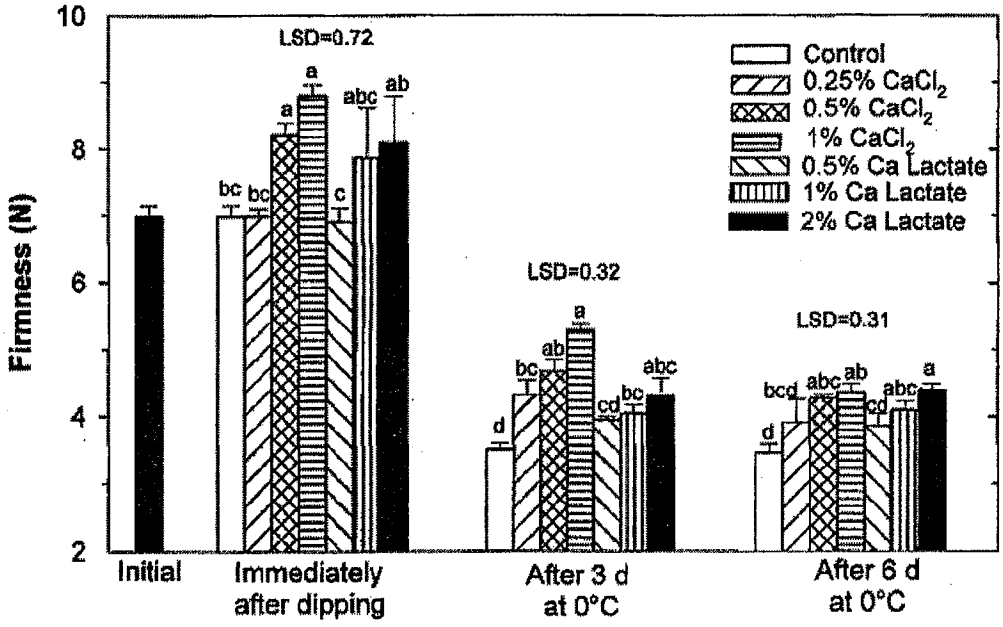
(25 marks)

9. i). What do you mean by the "Glycolytic Metabolism"? (10 marks)

ii). Design simple experiment to determine the Regulation of Glycolytic Metabolism in fresh- cut carrots under Low Oxygen Atmosphere.

(15 marks)

10. Graph is showing the effect of Calcium chloride and Calcium lactate on firmness of fresh-cut kiwifruit slices immediately after dipping and after 3 and 6 days at 0°C.



How firmness of fresh cut kiwifruit slices is effecting under different treatments of $CaCl_2$ and Ca lactate.

(25 marks)

11. i).What do you mean by the term "phylogeny"? (05 marks)

ii).What are the two practical methods that can be used to detect the phylogenetic relationships among plant species.

(04 marks)

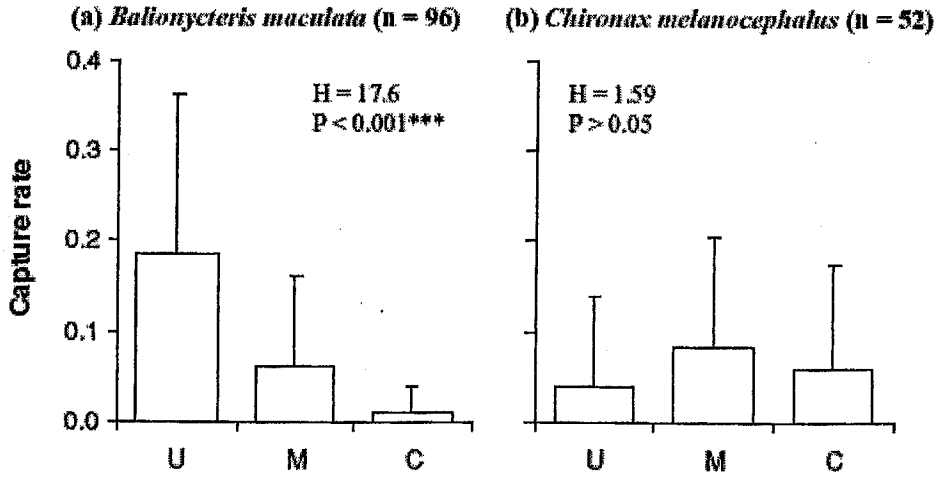
iii).Explain the DNA isolation and amplification procedure from the *Maxillarieae* orchids.

(16 marks)

12. i).What is the forests transect and forest plot? (05 marks)

ii).How tree parameters (Girth at breast height, tree height, vertical extension of crown and height to the fork) can be measured in all individual trees in a transect? (08 marks)

iii) Graph bellow shows capture rates and sample sizes (n) of two fruit bat species (a–b) within the understorey (U), midstorey (M), and canopy (C) of an old growth lowland rain forest at Kuala Lompat, Malaysia.



Write brief comparative account on the abundance of two bat species in lowland rain forest at Kuala Lompat

(12 marks)

13. i). Why Pomegranate Juice is healthier? (04 marks)

ii). List three antioxidant compounds present in Pomegranate Juice. (06 marks)

iv). Explain a method to identify the phenolic compound present in Pomegranate Juice.

(15 marks)

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14. Explain the tandem Coagulase/Thermonuclease Agar Method for the Detection of *Staphylococcus aureus.*

(25 marks)

15. i).What are the possible methods for propagation of potato? (5 marks)

ii). Briefly explain how invitro haploid potato plants can be generated (8 marks)

iii). Briefly explain the benefits of haploids in potato cultivation (12 marks)

16. i). A group of university students was asked to prepare a pure culture from a contaminated food product. Briefly explain the experimental procedure to prepare a pure culture.

(10 marks)

ii). Discuss the advantages and disadvantages of microbial biofilms related to food industry

(15 marks)

17. "Irradiation is widely used in agriculture". Explain this statement with suitable examples

(25 marks)

18. i). What are entophytic fungi? Give two examples (8 marks)

ii). Illustrate the standard experimental procedure to detect the antimicrobial activity of a certain product isolated from a wild plant species. You have to consider both antibacterial and antifungal activities.

(17 marks)