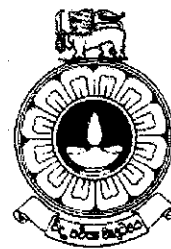


The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc./B.Ed Degree Programme



Department	: Botany
Level	: 05
Name of the Examination	: B.Sc. Degree Programme-Final Examination
Course Title and - Code	: Postharvest Technology of Fresh Produce BYU5308
Academic Year	: 2023/2024
Date	: 4 th April 2024
Time	: 9.30 a.m. 11.30 a.m.

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **06** questions in **02** pages.
 3. Answer any **04** questions only. All questions carry equal marks.
 4. Answer for each question should commence from a new page.
 5. Draw fully labelled diagrams where necessary
 6. Involvement in any activity that is considered as an exam offense will lead to punishment
 7. Use blue or black ink to answer the questions.
 8. Clearly state your index number in your answer script
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- 1) (a) List the major classes of nutrients in our diet
(b) State the main plant sources of above nutrients and their functions
(c) Write briefly on the beneficial effects of phytochemicals
(d) Explain the following:
 - (i) Antioxidants
 - (ii) Complete protein
 - (iii) Glycemic index
 - (iv) Goitrogenic agents
- 2) (a) List the properties of ethylene
(b) Using a graphical sketch, explain the changes in respiration and ethylene production in climacteric and non-climacteric fruits during ripening
(c) Briefly describe the deleterious effects of ethylene which reduce the quality in a wide range of commodities
- 3) (a) Define the term “post-harvest loss”
(b) Briefly describe how the environmental factors could lead to post-harvest loss of fresh produce
(c) Discuss how the post-harvest diseases are controlled using physical treatments
- 4) (a) Explain the term “minimal processing”
(b) Outline the steps involved in the production process of minimally processed lettuce
(c) Discuss the advantages and disadvantages of minimal processing
(d) State the problems associated with minimal processing and explain how you would minimize these problems

- 5) (a) Briefly describe the handling and stowage practices that should be adopted when produce is transported in road vehicles
- (b) List the advantages of air freight
- (c) Give reasons for the high cost and heavy losses in air freight
- 6) Write short notes on the following:
- (a) Compositional changes observed in a fruit that has entered the stage of ripening
- (b) Simple assessment methods that are used to assess the most appropriate commercial maturity stage of fresh produce

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