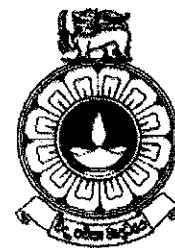


**The Open University of Sri Lanka**  
**Faculty of Natural Sciences**  
**B.Sc/ B. Ed Degree Programme**



<b>Department</b>	<b>: Botany</b>
<b>Level</b>	<b>: 05</b>
<b>Name of the Examination</b>	<b>: Final Examination</b>
<b>Course Title and - Code</b>	<b>: Horticulture BYU5609</b>
<b>Academic Year</b>	<b>: 2023/2024</b>
<b>Date</b>	<b>: 07.04.2024</b>
<b>Time</b>	<b>: 9.30-12.30am</b>
<b>Duration</b>	<b>: 03 hours</b>

**General Instructions**

1. Read all instructions carefully before answering the questions.
  2. This question paper consists of **two parts. Part A-Structured type and Part B -Essay type. Part A- Answer all questions. Part B- Select only Four (04) questions out of Six (06) Number of questions given.**
  3. Answer for each question should commence from a new page.
  4. Draw fully labelled diagrams where necessary
  5. Involvement in any activity that is considered as an exam offense will lead to punishment
  6. Use blue or black ink to answer the questions.
  7. Clearly state your index number in your answer script
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**PART A- Structured Type Questions**

**Answer ALL questions**

1.

(a) List four (04) possible designs of plant-growing structures that are used to cultivate *Gerbera* and *Dieffenbachia* foliage plants.

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(b) State the types of irrigation system/s that can be used in the above cultivations.

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(c) Briefly mention the active and passive methods that you would employ to control temperature and humidity inside the greenhouse.

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2. Write short notes on the following.

(a). Solarization

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(b). Acclimatization of plantlets

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(c). Totipotency

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(d).Espalier system

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(e).De-suckering

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3. (a) Complete the table below with suitable words

Vegetables belonging to the family Cucurbitaceae	Practices employed before and after cultivation	Most common pests and diseases
Bitter gourd ( <i>Mormodica charantia</i> )	(i)..... ..... (ii)..... .....	(i)..... (ii)..... (iii)..... (iv).....
Luffa ( <i>Luffa acutangular</i> )	(i)..... ..... (ii)..... .....	(i)..... (ii)..... (iii)..... (iv).....
Snake gourd ( <i>Richosanthes cucurmerina</i> )	(i)..... ..... (ii)..... .....	(i)..... (ii)..... (iii)..... (iv).....
Pumpkin ( <i>cucurbita maxima</i> )	(i)..... ..... (ii)..... .....	(i)..... (ii)..... (iii)..... (iv).....



## **Part B-Essay type Questions**

### **Answer ONLY Four (04) Questions**

1. Write a concise account on three (03) soilless agricultural systems that can be employed for commercial crop production in Sri Lanka.  
Your answer should include the appropriate illustrations with necessary details of the methods of fertigation and the operation and maintenance techniques of each system.
2. *Many woody plants of horticultural importance are propagated by grafting and budding.*
  - (a) Give the importance of grafting and budding techniques in plant propagation.
  - (b) Discuss four (04) common types of grafting and budding techniques employed in the Agricultural sector in Sri Lanka for propagation of fruit trees.
  - (c) State different methods (other than the methods described in part b) that you have observed in propagating fruit trees at the horticultural institute you recently visited.
3. Postharvest losses of fresh produce account for 30-40% of the total production. This value remained unchanged for decades.
  - (a) Explain the methods that you would employ to reduce the losses during the transportation of Tomato (*Lycopersicon esculentum*), Eggplant (*Solanum melogina*), cabbage (*Brassica olercia*) and leek (*Allium porrum*).
  - (b) Describe the different methods available for controlling pests and diseases for above mentioned vegetables.
4. *Many fruits are categorized as 'Underutilized' due to the availability of usage and the extent of cultivation in land areas.*
  - (a) Write an essay on Rambutan and Avocado highlighting methods of propagation, field establishment, and harvesting techniques.
  - (b) Compare the important properties of underutilized fruits, Soursop (*Annona muricata*), Mangosteen (*Garcinia mangostana*), Guava (*Psidium guajava*), and Jack Fruit (*Artocarpus heterophyllus*)
5.
  - (a) Briefly discuss the potential of floriculture industry in Sri Lanka
  - (b) State the major constraints and the proposed strategies to improve the floriculture industry.
  - (c) Discuss the propagation methods of orchids and Anthuriums
6. *Amenity trees are used in landscape and they adorn our streets, parks, and gardens and make our landscape much more interesting.*
  - (a) Briefly mention the factors that should be considered in selecting trees for a landscape.
  - (b) List five (05) functions of amenity trees.
  - (c) Discuss the methods employed in establishing trees in a garden or a park.

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