

UNIVERSITY OF RUHUNA  
BACHELOR OF SCIENCE (SPECIAL) DEGREE EXAMINATION LEVEL I  
SEMESTER I SEPTEMBER 2017

**Subject** : Botany  
**Course Unit** : Principles of Horticulture and Landscaping – BOT4022  
**Time** : 2 hrs  
**Index No.** : .....

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**Answer ONLY FOUR questions including question No. 1 AND 5**

1) a) **Circle true (T) or false (F) for the following statements** (20 Marks)

- i) T F Horticulture is growing fruits, vegetables, nuts and ornamentals and caring animals.
- ii) T F Horticulture is interrelated with agronomy and forestry
- iii) T F Plant propagation deals with the multiplication and production of plants using propagules representing specific genotypes
- iv) T F All terrestrial plants can be propagated by vegetatively.
- v) T F Only non-plant materials are used in hard Landscaping
- vi) T F Mound Layering is natural layering method
- vii) T F During plant pruning 45-degrees or less slanted cut is preferable
- viii) T F Pollarding is a method of plant arrangement in a landscape
- ix) T F Growing plants in a plant house is examples for protected agriculture
- x) T F Deep flow technique (DFT) is a non-circulating system of hydroponics

b) Describe the divisions of horticulture? (16 marks)

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c) What are disadvantages of horticultural practice?

(10 marks)

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d) Give two direct and indirect jobs available in horticulture industry.

(10 marks)

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e) Mention the major goals of plant propagation

(09 marks)

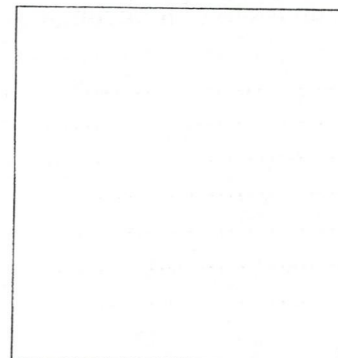
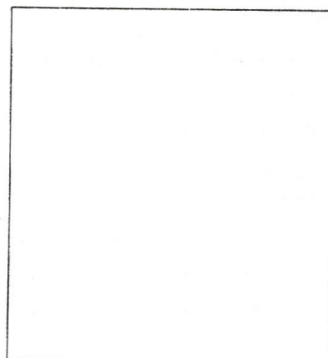
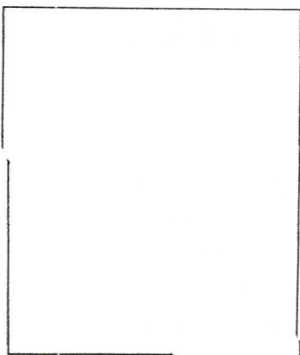
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f) Give suitable illustrations for

a) a grafting method

b) Topiary pruning system

c) Aeroponic culture.  
(15 marks)



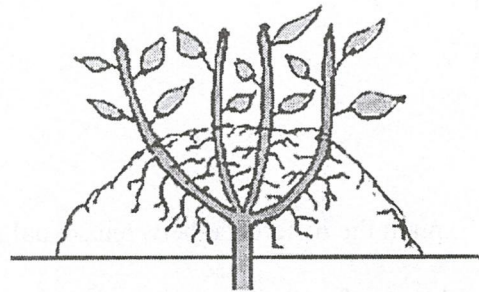
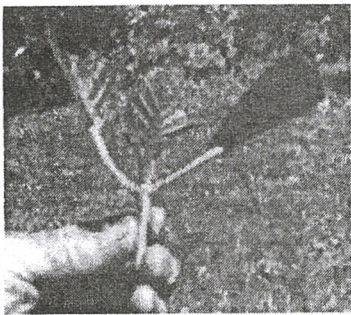
g) Describe container nurseries and field nurseries

(10 marks)

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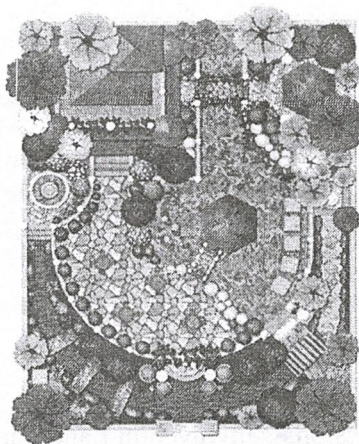
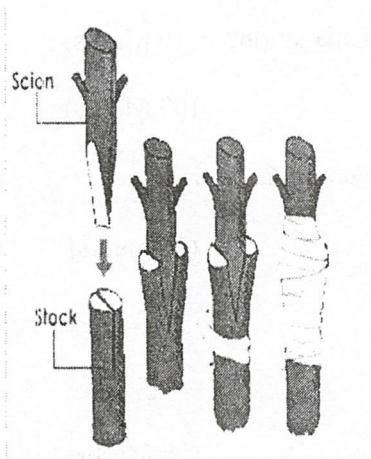
h) Identify following diagrams

(10 marks)



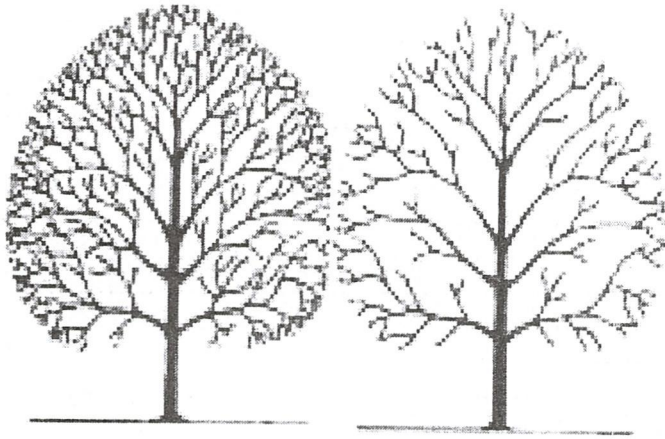
i).....

ii).....



iii) .....

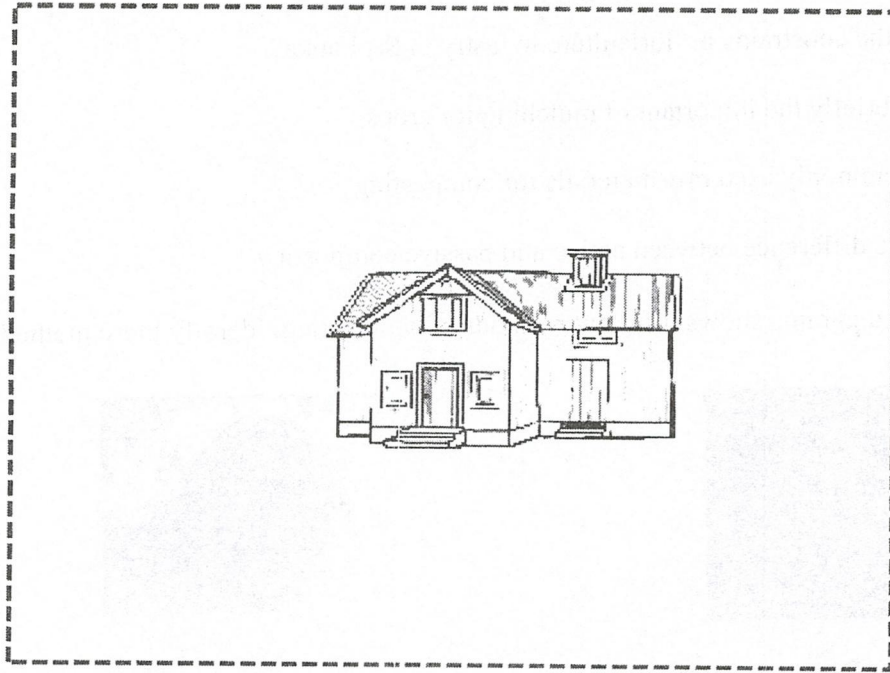
iv) .....



v) .....

- (2) i) Explain the difference between sexual and asexual propagation of plants (12 Marks)
- ii) What are the merits and demerits of above propagation methods? (20 Marks)
- iii) List the propagules used for natural and artificial vegetative propagation (14 Marks)
- iv) What are the precautions you would follow during the obtaining cuttings and potting of cuttings in propagation of plants? (16 Marks)
- v) What are the characteristics of proper rooting media for vegetative propagation? (10 Marks)
- vii) Mention three commonly used root promoting hormones (09 Marks)
- viii) Briefly describe the steps of suitable propagation methods for *Begonia* and *Rose* plants (steps from obtaining propagules until potting) (20 marks)
- 3). i) Name four professionals involved in Landscape industry? (08 Marks)
- ii) Using suitable illustration describe the principles of landscaping design (22 Marks)
- iii) Mention the steps in the residential landscape design process orderly (10 Marks)
- iv) List the information gathered by the landscape designer regarding the client before designing a landscape plan (20 Marks)

v) Following diagram shows a land with a house.

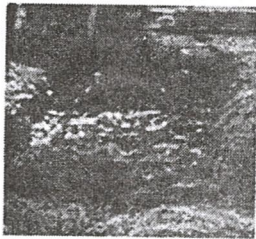


- a) Locate the public area and private area of the design (04 Marks)
  - b) Giving reasons mark most suitable locations for the establishment of flower beds and a compost pit (14 Marks)
  - c) Propose measures you would take to shield the backyard of the house from public (10 Marks)
- vi) List the important factors to be considered when selecting a site for establishment of flower garden (12 Marks)

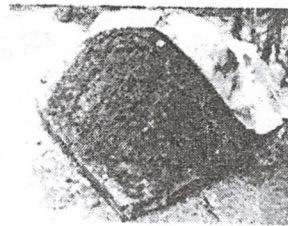
4) Write short notes on followings.

- i) Hydroponic systems. (32 Marks)
- ii) Plant pruning techniques (34 Marks)
- iii) Immediate planting care for plants (34 Marks)

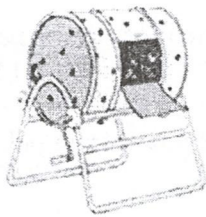
- u) i). Explain the necessity of the floriculture industry (10 Marks)
- ii). What are the constrains in floriculture industry in Sri Lanka? (16 Marks)
- iii) Describe briefly the important of mulching for crops (10 Marks)
- iv) List the commonly used raw materials for composting (10 Marks)
- v) Explain the difference between active and passive composting (10 Marks)
- vi) Following diagrams shows different methods of composting. Identify these methods.



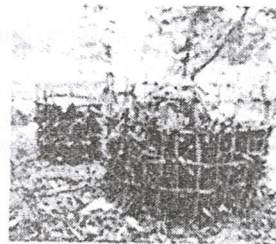
(a) .....



(b) .....



(c) .....



(d) .....

- (10Marks)
- vii) What do you mean by green manuring? (10 Marks)
- viii) Give three plant species that are commonly used for green manuring (09 Marks)
- ix) Briefly discuss the importance of green manuring (15 Marks)