

UNIVERSITY OF RUHUNA
BACHELOR OF SCIENCE (SPECIAL) DEGREE EXAMINATION – JULY 2016
LEVEL I SEMESTER I

Subject : Botany

Course Unit : Principles of Horticulture and Landscaping – BOT4022

Time : TWO HOURS

Index No. :

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 Hibiscus can be propagated only by leaf cuttings
- ii) T F Grafting can be successfully done only among closely related plant species
- iii) T F Hydroponic produce disease free vegetables
- iv) T F Pruning of plants retards the apical dominance
- v) T F Landscaping increases the property value of a land
- vi) T F Some horticultural plants attract poisonous snakes
- vii) T F Plants reproduce asexually from runners and rhizomes
- viii) T F Conifers are propagated by softwood cuttings.
- ix) T F A graft union healed through the process of meiosis.
- x) T F For the success of budding, it should be done when the rootstock is actively growing.

b) **Justify the necessity of plant propagation?** (08 marks)

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c) Explain the advantages of vegetative propagation compared to seed propagation (15 marks)

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d) Following table is based on the asexual propagation of plants. Complete it. (12 Marks)

Asexual propagation method of plants	An example of plant species (Scientific name only)
Natural method	
i)	
ii)	
Artificial Method	
iii)	
iv)	
v)	
vi)	

e) Give suitable illustrations for any three of artificial propagation methods mentioned in above table (10 marks)

f) What do you mean by "Scion" and "Rootstock" in grafting?

(10 marks)

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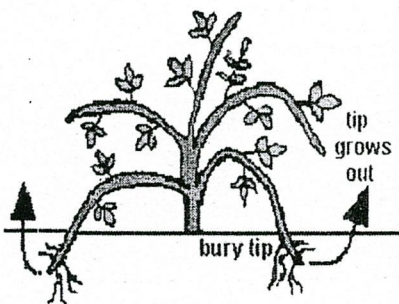
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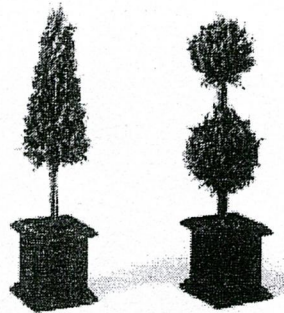
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g) Identify following diagrams

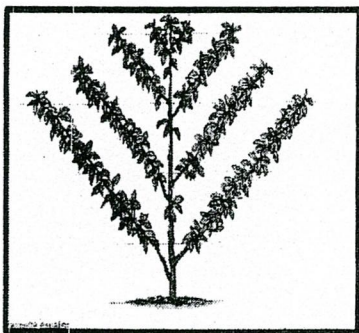
(10 marks)



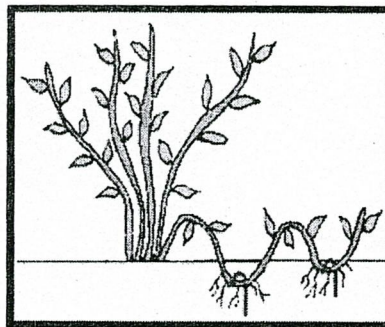
Eg. Tip layering



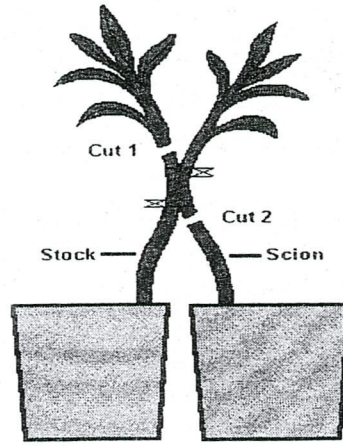
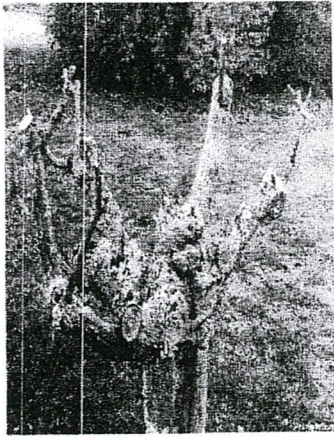
i).....



ii)



iii)



iv)

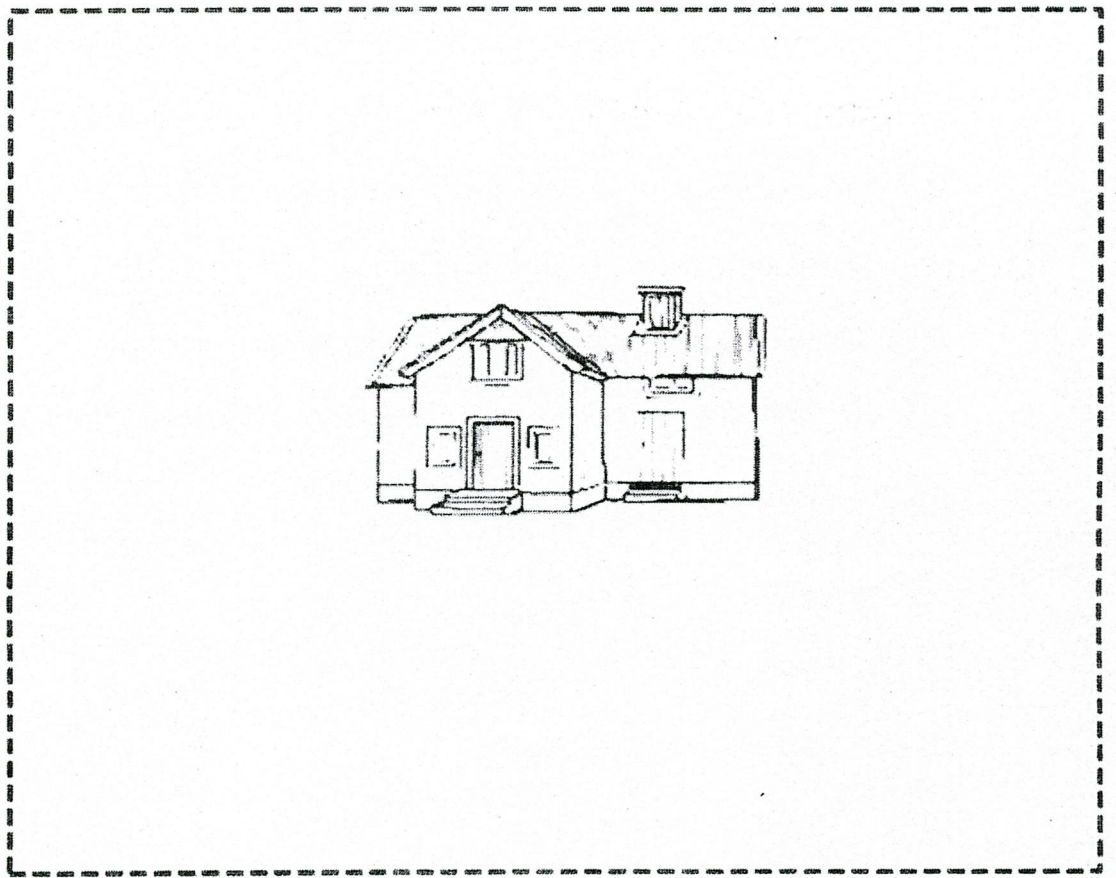
v)

h) Classify different hydroponics systems

(15 Marks)

- (2) i) Define "horticulture" and "agriculture". (10 marks)
- ii) "*Horticulture is very important to society in variety of ways*". Describe this statement. (40 marks)
- iii) Explain briefly. (10 marks)
- a) Pomology
 - b) Olericulture
- iv) Describe briefly adverse effect of horticulture on environment and society. (20 mark)
- v) a). What are the limitations in Horticultural industry in Sri Lanka? (10 mark)
- b). Suggest remedies to overcome the limitations. (10 mark)

- 3). i) Briefly describe the objectives achieved by landscaping an abandoned Land. (40 marks)
- ii) Explain the difference between soft and hard landscaping. (30 marks)
- iii) List the roles of following professionals
- a) Landscape architect (08 marks)
 - b) Landscape constructor (04 marks)
 - c) Nurseryman (14 marks)
 - d) Garden keeper (08 marks)
- iv) Following diagram shows a land with a house



Point out the most suitable places for a hedge, access way, pond, garage, wall, jack tree, flower bed, bench, compost pit, dog cage in the diagram. (16 marks)

4) Write short notes for followings.

- i) Different irrigation systems. (40 marks)
- ii) Advantages of growing plants in protected environment. (25 marks)
- iii) Agronomic importance of plant pruning. (35 marks)

- 5) i) What is floriculture ? (05 marks)
- ii) Give five examples for common floricultural species grown in Sri Lanka. (10 marks)
 - iii) Explain briefly the impact of floriculture industry on Sri Lankan economy. (20 marks)
 - iv) What are the limitations of floriculture industry in Sri Lanka? (10 marks)
 - v) Mention the basic components of a green house. (10 marks)
 - vi) List the different types of greenhouses. (15 marks)
 - vii) Group the greenhouses according to the covering materials. (15 marks)
 - viii) What are the major factors to be considered when designing a greenhouse? (15 marks)