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AR-2017

B.Sc (AG)

4<sup>th</sup> SEMESTER REGULAR EXAMINATION-NOV-2019

EC-242

HIGH-TECH HORTICULTURE

Time : 2 Hours

Maximum : 50 Marks

(Answer all questions of Section – A)

SECTION – A

- Q.1 Fill up the Blanks with suitable and meaningful word(s): [10×0.5=5]
- a The type of water culture system in which the bare roots are continuously bathed in a flowing nutrient solution is called\_\_\_\_\_.
  - b The polythene used in construction of greenhouse should be resistant to\_\_\_\_\_rays.
  - c Hexagonal system accommodates\_\_\_\_\_% more trees/ha as compared to square system.
  - d \_\_\_\_\_are computer hardware and software that use feature attributes and location data to produce maps.
  - e \_\_\_\_\_ is a gray white siliceous material in volcanic origin used as media for propagation.
  - f The biodegradable and eco-friendly growing media prepared from natural coir fibre is\_\_\_\_\_.
  - g Removal of low hanging branches in a plant is known as \_\_\_\_\_.
  - h \_\_\_\_\_ are the imaginary lines passing through points of equal elevation.
  - i Canopy management depends on the nature and growth pattern of plant, number of plants per hectare and \_\_\_\_\_.
  - j Ultra high density orchard system for guava accommodates \_\_\_\_\_ number of plants/ha with a spacing of 1.0 m X 2.0 m.
- Q.2. Define or Explain the following in one or two sentences [ 5 × 1 = 5]
- a) Fertigation
  - b) Disinfestants
  - c) Hardening off
  - d) High-tech Nursery
  - e) Meadow orchard
- Q.3. Match the following [10 × 0.5 = 5]
- |                     |                           |
|---------------------|---------------------------|
| a. Quincunx         | 1. Polyhouse              |
| b. Central Leader   | 2. Vegetative Propagation |
| c. Gutter           | 3. Ripening               |
| d. Pineapple        | 4. Pruning                |
| e. Callus           | 5. Orchard                |
| f. Lay out          | 6. Fungicide              |
| g. Heading Back     | 7. Tissue culture         |
| h. Ethrel           | 8. Greenhouse             |
| i. Bordeaux mixture | 9. Training               |
| j. Poly carbonate   | 10. Filler plant          |



Q.4. Write TRUE or FALSE against the following statements [ 10 × 0.5 = 5.0]

- a) High density planting was first introduced in Europe in apple crop.
- b) Removal of part of terminal growing portion of stem is called as deshooting.
- c) Precision Agriculture is also known as GPS Agriculture or variable rate farming.
- d) The choice of crops to be raised in a greenhouse is made on the basis of the physical size of the structure and economics of crop production.
- e) In ultra high density mango orchard, pruning must be completed as soon as possible after harvest preferably before second week of June.
- f) Micro irrigation is more suitable for wide spaced crops especially fruit trees.
- g) Medium or tall cultivars of banana are preferred and should be planted under high density planting over dwarf cultivars.
- h) Rejuvenation of mango trees under rainfed condition is not recommended since the tree may not recover after pruning.
- i) Sprinkler irrigation sometimes encourages foliar diseases in crop plants.
- j) For construction of greenhouse, north-south direction is preferred.

**SECTION – B**

(Short Answer Questions)

(Attempt **any five** questions. Each question carries equal marks) [5 x 6 =30]

- Q.5 What is irrigation? What are the important factors which determine the choice of irrigation methods? Write in detail about the merits and demerits of drip irrigation.
- Q.6 What do you mean by greenhouse? Write down the scope of greenhouse technology in Indian Horticulture. Give examples of commonly grown greenhouse horticultural crops.
- Q.7 Write short notes on the following:
  - a) GIS
  - b) DGPS
- Q.8 Define high density planting? What are the fruit crops suitable for high density planting? Write down the factors affecting choice of high density planting
- Q.9 What is canopy management? Explain in details the steps followed for canopy management of mango and guava.
- Q.10 Write in brief about the mechanical harvesting and handling of horticultural produce.