

**SRI VENKATESWARA UNIVERSITY TIRUPATI**  
**B.VOC. HONOURS PROGRAMME IN DAIRYING**  
**AND ANIMAL HUSBANDARY**

**MINOR: HORTICULTURE**

**FIRST YEAR – SECOND SEMESTER**

**Under CBCS W.E.F.2023-24 AY Onwards**

**MINOR PAPER-I: FUNDAMENTALS OF HORTICULTURE**

**Credits -3**

**I Learning Objectives:**

By the end of this course the learner has:

1. To realize the divisions and zones of Horticulture in india
2. To capable of planning new fruit orchard and able to produce new plantlets through various propagation methods.
3. To learn basic knowledge related to horticulture.

**II. Learning Outcomes:** On completion of this course students will be able to:

1. Understand the scope and potential of Horticulture products in India and Andhra Pradesh.
2. Illustrate different systems of planting in orchard and predict the number of plants in a given land.
3. Demonstrate the methods and types of training and pruning.
4. Explain sexual and asexual propagation methods of plants.
5. Demonstrate skills on vegetative propagation of plants.

**III. Syllabus of Theory:**

**Unit-1: Introduction to Horticulture**

**9 Hrs.**

1. Horticulture: Definition, importance and scope of horticulture.
2. Divisions of Horticulture with suitable examples and their importance.
3. Area and production of Horticultural crops in A.P. and India.
4. Horticulture zones of India and Andhra Pradesh.

**Unit 2: Characteristics of Orchards**

**9Hrs.**

1. Orchard: Definition, different systems of planting orchards – square, rectangular, Quincunx, hexagonal and contour.
2. Calculation of planting densities in different systems of planting.
3. Training: Definition, principles and objectives; merits and demerits of different methods of Training.
4. Pruning: Definition, principles and objectives: Different methods of pruning.

**Unit-3: Plant propagation**

**9 Hrs.**

1. Sexual propagation – advantages and disadvantages.
2. Polyembryony – Horticultural significance of polyembryony
3. Asexual propagation – advantages and disadvantages.
4. Vegetative propagation by Bulbs, Corms, Tubers, Rhizomes.

**Unit- 4: Vegetative propagation techniques****9 Hrs.**

1. Cuttings: Definition, methods of Cuttings.
2. Layering: Definition, methods of Layering.
3. Grafting: Definition; methods of Grafting.
4. Budding: Definition; methods of Budding.

**Unit- 5: Important Horticultural operations****9 Hrs.**

1. Definition of Irrigation-Different methods of irrigation followed in horticultural crops.
2. Definition of manures and fertilizers-different methods of application of manures and fertilizers to horticultural crops.
3. Definition of mulch-objectives of mulching-different types of mulches-organic and inorganic mulches with suitable examples.
4. Cropping systems-inter cropping and multi-tier cropping, their merits and demerits with suitable examples.

**Text Books/ Reference Books:**

- Prasad and Kumar ,2014.: Principles of Horticulture 2nd Edition Agribios India.
- Kumar, N., 1990 Introduction to Horticulture. Rajyalakshmi Publications, Nagarkoil, Tamilnadu.
- Jithendra Singh, 2002. Basic Horticulture. Kalyani Publishers, Hyderabad.
- Kau salkumar Misra and Rajesh Kumar, 2014 Fundamentals of Horticulture Biotech books.
- Sadhu. M.K 1996. Plant propagation, New Age International Publishers, New Delhi
- Sarma. R. R 2002 Propagation of Horticultural crops: Principles and practices Kalyani Publishers, New Delhi
- Hartman. HT and Kester. D.E 1976 Plant propagation. Principles and Practices, Prentice Hall of India Pvt. Limited, Mumbai.

## **MINOR PAPER-I: FUNDAMENTALS OF HORTICULTURE**

### **Credits -1**

#### **I. Laboratory/field exercises:**

1. Identification of various Horticulture crops.
2. Identification of various tools and implements in Horticulture.
3. Preparation of nursery beds for sowing of vegetable seeds.
4. Methods of breaking dormancy in seeds.
5. Growing Media for propagation of plants.
6. Brief account of plant propagation structures.

#### **V. Suggested activities and evaluation methods:**

##### **A. Measurable:**

###### **a. Student seminars:**

1. Importance, scope and statistics of horticulture in India and Andhra Pradesh
2. Branches or divisions of horticulture with suitable examples
3. Climatic zones of horticulture in India and Andhra Pradesh.
4. Systems of planting in an orchard
5. Types and methods of pruning in horticultural crops
6. Training methods in horticultural crops
7. Types of propagation methods (Asexual and sexual)
8. Cuttings – Types of cuttings
9. Layering – Types of Layering
10. Grafting – Types of grafting
11. Budding – Types of Budding

###### **b. Student Study Projects:**

1. Demonstrate different methods of planting systems

2. Collection of different soil samples of local area
3. Method of demonstration on mixing of fertilizer
4. Study of different tools and implements in horticulture
5. Demonstrate on different methods of Cuttings
6. Demonstrate on different methods of Layering
7. Demonstrate on different methods of Grafting
8. Demonstrate on different methods of Budding

**c. Assignments:**

Written assignment at home / during '0' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

**B. General:**

1. Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.
2. Visit to Horticulture University/Research station

**MINOR PAPER-I: FUNDAMENTALS OF HORTICULTURE  
MODEL QUESTION PAPER**

Time: 1½ Hours

Max. Marks: 75

**PART -A**

Answer any FIVE questions, each question carries 5 marks. (5x5=25)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

**PART – B**

Answer **ALL** of the following Question. (5x10=50)

11. a)

Or

b)

12. a)

Or

b)

13. a)

Or

b)

14. a)

Or

b)

15. a)

Or

b)