

Sri Venkateswara University, Tirupati

Syllabus for **B.VOC HORTICULTURE (MAJOR)** in consonance with Curriculum framework
w. e. f 2025-26 AY onwards
COURSE STRUCTURE

Year	Semester	Course	Title	No of Hrs/week	No of Credits
I	I	1	Fundamental of Plant Physiology - (P)	3	3
			Fundamental of Plant Physiology - (P)	2	1
		2	Organic farming – (T)	3	3
			Organic farming – (P)	2	1
	II	3	Seed Technology – (T)	3	3
			Seed Technology – (P)	2	1
		4	Silvi Horticulture – (T)	3	3
			Silvi Horticulture – (P)	2	1
II	III	5	Fundamental of Horticulture - (T)	3	3
			Fundamental of Horticulture - (P)	2	1
		6	Introduction to Soil Science – (T)	3	3
			Introduction to Soil Science – (P)	2	1
		7	Management of Pests in Horticultural Crops – (T)	3	3
			Management of Pests in Horticultural Crops – (P)	2	1
	IV	8	Basics of Vegetable Science – (T)	3	3
			Basics of Vegetable Science – (P)	2	1
		9	Plant Tissue Culture – (T)	3	3
			Plant Tissue Culture – (P)	2	1
		10	Management of Diseases in Horticultural Crops – (T)	3	3
			Management of Diseases in Horticultural Crops – (P)	2	1
III	V	11	Basics of Fruit Science – (T)	3	3
			Basics of Fruit Science – (P)	2	1
		12	Plantation crops, Spice crops, Medicinal crops and Aromatic crops – (T)	3	3
			Plantation crops, Spice crops, Medicinal crops and Aromatic crops – (P)	2	1
		13	Mushroom Culture and Technology – (T)	3	3
			Mushroom Culture and Technology – (P)	2	1
		14	Ornamental Horticulture – (T)	3	3
			Ornamental Horticulture – (P)	2	1


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IV	VI	15	Commercial Floriculture – (T)	3	3
			Commercial Floriculture – (P)	2	1
	VII	16	Plant propagation– (T)	3	3
			Plant propagation– (P)	2	1
		17	Dry land horticulture– (T)	3	3
			Dry land horticulture– (P)	2	1
		18	Processing of horticultural crops– (T)	3	3
			Processing of horticultural crops– (P)	2	1
		19	Weed management of horticultural crops– (T)	3	3
			Weed management of horticultural crops– (P)	2	1
		20	Growth and development of horticultural crops– (T)	3	3
			Growth and development of horticultural crops– (P)	2	1
	VIII	21	Apiculture– (T)	3	3
			Apiculture– (P)	2	1
		22	Introduction to major field crops– (T)	3	3
			Introduction to major field crops– (P)	2	1
		23	Fundamentals of extension education– (T)	3	3
			Fundamentals of extension education– (P)	2	1
		24	Post harvest management of horticultural crops– (T)	3	3
			Post harvest management of horticultural crops– (P)	2	1
		25	Farm power and machinery– (T)	3	3
			Farm power and machinery– (P)	2	1

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SEMESTER – II
COURSE 4: SILVI HORTICULTURE

Theory

Credits – 3

3 hrs/week

I. Learning outcome:

After complete of these courses, students should be able to be

- Understand about objectives of forest Understand about agro forestry
- Benefits of forest
- Understand about forest nursery
- Learn about cultivation techniques forest tree species
- Understand about forest conservation

Learning Objectives of Silviculture

- To understand forest regeneration methods
- To study the growth and development of trees
- To manage forests sustainably.
- To improve the quality and productivity of forests
- To restore degraded forest lands
- To select suitable species for different sites and purposes
- To conserve ecological balance and wildlife habitat

II. SYLLABUS

Unit- 1 Introduction

9 Hrs.

1. Definition, Branches of forestry, Divisions of forest and interrelations
2. Classification of forest, Advantages of forest.
3. Importance of forest - Direct and Indirect benefits

Unit- 2 Agro forestry

9Hrs

1. Definition, Objectives, Types of agro forestry system.
2. Benefits of agro forestry system, differences between agro forestry and social forestry.
3. Advantages and disadvantages of agro forestry.

Unit- 3 Forest nursery management

9Hrs

1. Definition of nursery and forest nursery.
2. Types of nurseries, Factors affecting for area selection.
3. Tissue culture: Definition, History, application and General techniques of tissue culture

Unit-4 Forest cultivation

9Hrs

1. Forest farming, examples of forest farming products.
2. Forest regeneration- External factors of cultivation
3. Cultivation technologies of timber trees: Teak, Red sander.
4. Cultivation technologies of Industrial Forest species: Bamboo, Sandal wood.

Unit- 5 Forest conservation

9Hrs

1. Introduction, steps of conservation of forest.
2. Deforestation, Effects of deforestation.
3. National forest policy-1988, Aim and Objectives
4. Conservation of natural resources- soil, water, biodiversity, forests.


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References

- Ashton, M. S. and M. J. Kelty. 2018. The practice of silviculture: applied forest ecology, 10th edition. John Wiley and Sons, New York. 784 pp.
- Jain, T. B., 2019. The 21st century silviculturist. Journal of Forestry 117(4): 417–424.
<https://doi.org/10.1093/jofore/fvz027>
- Jenkins, T., R. Matthews, E. Mackie and L. Halsall. 2012. Technical glossary. PF2011. Forestry Commission, Edinburgh. 7 pp.

SEMESTER - II
COURSE 4: SILVI HORTICULTURE

Practical

Credits – 1

2 hrs/week

I. Laboratory/field exercises:

1. Explain the forest benefits.
2. Describe different types of forest.
3. Explain the variations of agro forestry and social forestry.
4. Explain the infra structure of nursery.
5. Explain the cultivation techniques of timber, teak, red sandal.
6. Tissue culture techniques in forest.
7. Identification of forest species.
8. Field visit to forest nursery.
9. Record.

IV. Suggested activities:

A. Measurable:

1. Student seminars:

1. Role of Silvi Horticulture in Sustainable Agriculture
2. Agro forestry Systems for Fruit Crop Production
3. Tree–Crop Interaction: Competition and Complementarity
4. Soil and Water Conservation through Silvi Horticulture
5. Economics and Employment Opportunities in Silvi Horticulture
6. Role of Multipurpose Tree Species (MPTS) in Horticultural Systems

2. Student Study Projects:

1. Growth Performance of Fruit Trees under Different Tree Canopy Conditions
2. Effect of Agroforestry Trees on Microclimate and Soil Fertility in Horticultural Fields
3. Comparative Study of Alley Cropping Systems using Guava and Drumstick
4. Study on Carbon Sequestration Potential in Silvi Horticultural Systems
5. Assessment of Farmers' Perception towards Tree–Crop Combination Practices
6. Intercropping Efficiency of Vegetables under Mango or Coconut Orchards

3. Student Assignments

1. Definition, Scope, and Importance of Silvi Horticulture in India
2. Classification and Design of Silvi Horticultural Systems
3. Tree Species Suitable for Silvi Horticulture in Different Agro-Climatic Zones
4. Nutrient Cycling and Soil Fertility Management in Silvi Horticultural Systems
5. Constraints and Challenges in Adoption of Silvi Horticulture
6. Government Schemes and Research Organizations Promoting Agroforestry

MODEL QUESTION PAPER
COURSE 4: SILVI HORTICULTURE

Times: 3 Hours

Maximum Marks: 75

SECTION – A

(Answer **ANY FIVE** questions. Each question carries 3Marks)

(5 × 3 = 15 Marks)

1. Define forestry and mention its main branches.
2. List any four advantages or benefits of forests.
3. What are the main objectives of agroforestry systems?
4. Differentiate between agroforestry and social forestry.
5. Define forest nursery and mention its types.
6. What are the general techniques involved in tissue culture?
7. What is forest farming? Give two examples of forest farming products.
8. Write short notes on the cultivation of teak and red sander trees.
9. What are the major causes and effects of deforestation?
10. State the aims and objectives of the National Forest Policy (1988).

SECTION – B

(Answer any **ONE** question from each Unit. Each question carries 12 Marks) **(5 × 12 = 60 Marks)**

UNIT – I

- 11. A.** Explain the branches and divisions of forestry and describe how they are interrelated.

OR

- B.** Discuss the classification, advantages, and importance of forests.

UNIT – II

- 12. A.** Define agroforestry and explain its objectives and different types of agroforestry systems with examples.

OR

- B.** Describe the benefits, advantages, and disadvantages of agroforestry, and compare it with social forestry.

UNIT – III

- 13. A.** Explain the types of nurseries and factors affecting site selection in nursery establishment.

OR

- B.** Write in detail about tissue culture in forestry – its definition, history, applications, and general techniques.

UNIT – IV

- 14. A.** Discuss the external factors influencing forest regeneration.

OR

- B.** Describe the cultivation technologies of timber and industrial forest species such as teak, sander.

UNIT – V

- 15. A.** Explain the effects of deforestation on the environment.

OR

- B.** Write an essay on the National Forest Policy (1988) — its aims, objectives, and importance in natural resource conservation.