

Syllabus

1. **Course Duration:** 3 Months
2. **Student Eligibility:** Student Passed minimum 10th Std.
3. **Aim and Objective of the Course:** After completion of certificate course student able to propagate the plants in nursery.
4. **Medium of instruction:** English
5. **Course Working Hours: Theory Course:** No. of Lectures – 40
: **Practical Course:** No. of Practicals – 20

Theory Course Syllabus:

Unit 1 Basics in Plant propagation:

(20 L)

Subunit 1.1 Introduction: Overview of Horticulture, Branches of Horticulture, Carrier in the horticulture especially with reference to nursery management.

Subunit 1.2 Garden Tools and Implements: Axe, crowbar, Hoe, Hosepipe, knives, labels, Lawnmower, Pickaxe, pruning shear, Saw, Secateurs, Sieve, spade and Shovel, Sprinklers / rain-birds, Sickle, Sword, Trowel, Watering can, pots / containers

Subunit 1.3 Soil and its preparation: Physical texture and composition of soil, soil types, soil pH, preparation of beds and preparation of soil mixtures / garden soil.

Subunit 1.4 Classification of Horticultural crops: Plant parts, Classification on the basis of growth habit, shedding of leaves, life span, climatic requirement, use of plant part, ecology.

Subunit 1.5 Types of Horticultural Plants- Annuals, Perennials, climbers, shrubs and trees (at least two examples with morphology and horticultural use and applications from each type).

Subunit 1.6: Plant protection measures.

Unit 2 Plant Propagation:

(20 L)

Subunit 2.1 Introduction: Concept and history of plant propagation, Classifications of plant propagation methods, Choice of propagation methods.

Subunit 2.2 Propagating Structures, Equipments and Media: Concepts, Green house, Shade house, Net-house, Hot beds, Cold frame, Mist propagating units, containers for growing plants/seedlings/saplings; Rooting media-Soil, Sand, Vermiculite, Perlite, Sphagnum moss, Leaf mould, Care of media.



Subunit 2.3 Sexual Propagation / Seed Propagation: Concept, advantages, disadvantages, seed germination, seed dormancy, viability of seed, seed health, Pre-germination treatments, growing of seedlings in bed.

Subunit 2.4 Types of Asexual Propagation / vegetative propagation: Concept, advantages, disadvantages / limitations.

2.5.1 Propagation by modified /Specilized vegetative structures/organs- Bulb, Tubers, root, stem corm, Rhizome, runner, offset, suckers etc.

2.5.2 Propagation by Cutting.

2.5.3 Propagation by Layering.

2.5.4 Propagation by Grafting.

2.5.5 Propagation by budding.

2.5.6 Types of nurseries, Different department of nurseries and their activities

2.5.7 Marketing of nursery plants-advertisement and marketing technique

6. Practical Course Syllabus:

(20 Practicals)

1. Study of Garden Tools and Implements.
2. Study of soil texture and pH.
3. Study of fertilizers, organic manures & substrates.
4. Preparation of soil mixture for potting.
5. Preparation of pot for potting.
6. Preparation of beds for raising seedlings.
7. Demonstration of nursery Pot filling / polybag filling.
8. Transplantation of nursery seedlings / saplings.
9. Study of Horticultural Crops.
10. Study of Propagating Structures and Equipments.
11. Use of plant propagation Media.
12. Study of methods to break seed dormancy.
13. Study of specialized / modified vegetative structures for propagation.
14. Propagation of plants by specialized / modified plant parts.
15. Study of Propagation by stem cutting.
16. Study of Propagation by layering.
17. Study of propagation by grafting.
18. Study of propagation by budding.
19. Plant protection measures for nursery plants.
20. Visit to nursery to observe practices in propagation.

