

**DEPARTMENT OF HORTICULTURE****GHORVAC01 - Principle of Plant Propagation****Learning Objectives**

To make the students learn different methods of plant propagation.

To impart knowledge on nursery management of various horticultural crops.

To make them familiarize with the tools and implements essential for all horticultural operations.

**Unit I Plant growth and development**

Botany of horticultural plants – life cycle – habit – basic physiological functions – role of nutrients – plant growth regulators – factors affecting growth and development – classification of Horticultural crops .

**Unit II Propagation techniques -I**

Collection of seeds- methods of extraction of seeds – methods of seed storage – advantages and disadvantages of seed propagation – seed germination – types of seed germination – seedling growth – dormancy – methods to overcome dormancy – seed viability- seed longevity – seed testing- types of nursery – methods of raising nursery.

**Unit III Propagation techniques -II**

Media for propagation – potting mixture preparation- containers – potting – depotting – repotting- tools and implements – vegetative propagation – types of vegetative propagation- advantages and disadvantages of vegetative propagation- types of cuttings – types of layering – hormonal treatments for rooting.

**Unit IV Propagation techniques -III**

Grafting – root stock – scion – raising of root stocks – pre-curing of scion – methods of grafting – budding – bud wood – propagation by specialized plant parts – tissue culture techniques – hardening – propagation structures – mist chamber – shade house

**Unit V Nursery Management**

Water quality – methods of irrigation – advantages – nutrition of nursery plants – deshooting, disbudding, pinching, staking, raking – major pests and diseases and control measures.

**References:**

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