

Unit-I. Plant Breeding-I

Plant breeding – objectives, origin, domestication

Hybrid vigour Principles and methods of Plant Breeding

Self pollinated crops

Cross pollinated crops

Clonal crops Plant Introductions – NBPGR

Unit-II. Plant Breeding-II

Biosafety and Bioethics IPR, Patents, concept, benefits

GATT, TRIPS Biosafety and bioethics: objectives, risk assessment, containment

Genetically modified plants

Seed certification

Release of varieties

Plant Breeder's Right

Unit-III. Horticulture-I

Horticulture Propagation by seeds and vegetative structures, harvesting, storage and viability Germination, dormancy (seed and bud), Pretreatments Techniques

Anatomical and Physiological aspects of rooting of cuttings, Grafting, Budding,

Layering Important horticultural crops of India with emphasis on Gujarat fruit/flowers, cultivation, harvest and post – harvest handling

Unit-IV. Horticulture-II

Gardening and Landscape Cultivation under cover

Greenhouse: advantages, construction, types, maintenance

Organic farming, mulching, composting

IPM, advantages

Landscaping-principles, types, planning

Xeriscaping Garden-features/elements, styles

Indoor gardening

Gardens of India