

# AMH06 PLANT PROPAGATION AND NURSERY MANAGEMENT

## UNIT-1 THEORY

- 1.1 Propagation: Need and potentialities for plant multiplication, sexual and asexual methods of propagation, advantages and disadvantages.
- 1.2 Seed dormancy types of dormancy (scarification & stratification) internal and external factors, nursery techniques nursery management, apomixes – mono-embryony, polyembryony, chimera & bud sport.
- 1.3 Propagation Structures: Mist chamber, humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses, phytotrons nursery (tools and implements),
- 1.4 Use of growth regulators in seed, types and stages of seed germination with examples and vegetative propagation, methods and techniques of division-stolons,
- 1.5 Pseudo bulbs, offsets, runners, cutting, layering, grafting, formation of graft union, factor affecting, healing of graftage and budding physiological & bio chemical basis of rooting, factors influencing rooting of cuttings and layering, graft incompatibility.
- 1.6 Anatomical studies of bud union, selection and maintenance of mother trees, collection of scion wood stick, scion-stock relationship, and their influences, bud wood certification, techniques of propagation through specialized organs, corm, runners, suckers.
- 1.7 Micro grafting, meristem culture, callus culture, anther culture, organogenesis, soma clonal variation hardening of plants in nurseries.
- 1.8 Nursery registration act.
- 1.9 Insect/pest/disease control in nursery, Cost of establishment of propagation structures.

## UNIT-2 PRACTICAL

- 2.1 Media for propagation of plants in nursery beds, potting and repotting. Preparation of nursery beds and sowing of seeds. Raising of rootstock.
- 2.2 Seed treatments for breaking dormancy and inducing vigorous seedling growth. Preparation of plant material for potting. Hardening plants in the nursery.
- 2.3 Practicing different types of cuttings, layering, graftings and buddings including opacity and grafting, top grafting and bridge grafting etc.
- 2.4 Use of mist chamber in propagation and hardening of plants.
- 2.5 Preparation of plant growth regulators for seed germination and vegetative propagation. Visit to a tissue culture laboratory. Digging, labelling and packing of nursery fruit plants.
- 2.6 Maintenance of nursery records. Use of different types of nursery tools and implements for general nursery and virus tested plant material in the nursery.
- 2.7 Cost of establishment of a mist chamber, greenhouse, glasshouse, polyhouse and their maintenance. Nutrient and plant protection applications during nursery.

## References Book:

1. Guy W. Adriance and Feed R. Brison. Propagation of Horticultural Plants. Axis Books (India)