Course Title	Conventional and Advanced Plant Propagation Technologies			Course Code	BST 21142		
Year	2	Semester	1	Credits	02	Theory (hr)	15
						Practical (hr)	30
						Independent Learning (hr)	

Aim of the Course:

To provide the knowledge and skills on plant propagation techniques

Intended Learning Outcomes:

After completion of this course, the learner should be able to:

- Identify the appropriate techniques and facilities to propagate a selected plant.
- Develop a propagation plan for mass production of selected plants.
- Explain the practices to be followed to operate a commercial nursery.

Course Capsule:

Theory
Introduction to propagation: asexual and sexual; Plant life cycles; annual, perennial, biennial life cycles; Propagation terminology; Seed propagation; Seed biology - endospermic, non-endospermic; seed sources; Maintaining genetic identity of seed - isolation, rouging, testing, hand pollination; Hybrid seed production; Seed storage; Seed dormancy; Seed raising technique; Operational flow chart for seed propagation; Vegetative propagation; Propagation techniques: runners, suckers, layering, separation, division, grafting, budding, cuttings; Aseptic micro propagation: applications, problems, nutrient media, cleanliness, growing conditions, tissue culture procedures and techniques, laboratory requirements; Propagation structure and materials: growing in a greenhouse; Growing structures: types of greenhouses, cold frames, shade houses; Propagating equipment -heaters, bottom heat, misting, light control, benches etc.; Managing a greenhouse; Potting media: characteristics of potting and propagating media; Chemical characteristics - ph, cation exchange capacity, salinity, conductivity; physical characteristics; Types of potting media; Potting mixes; laboratory testing of media; nutrition requirement at the propagation stage; nutrition management and fertilizer application; nursery management; nursery production systems; nursery standards, site planning and development; risk management: nursery hygiene; safety tools, equipment handling, electricity, etc.; pest and disease management

Practical
Identification of plant propagation materials; Seed propagation: dormancy breaking, seed germination, seed purity ; Layering ; Budding ;Grafting ;Micro propagation; Embryo culture and embryo rescue; Nursery management- field visit

Assessment:

Continuous assessment: 40%
End semester assessment: 60%