

B. Sc. Three Year Degree Course
Department of Forestry and Environmental Sciences
Detailed semester syllabus commenced from 2016-17

II Semester

Paper I Silviculture of Indian Trees & Silviculture Systems (60+ 20 marks)

Distribution phenology of trees, Growth characteristics, Silvicultural characters, regeneration methods, management and economic importance of the following species: Conifers: *Abies pindrow*, *Picea smithiana*, *Cedrus deodara*, *Pinus roxburghii*, *P. wallichiana* and *Cupressus torulosa*.

Broad leaf: *Quercus sp.*, *Acacia arabica*, *A. catechu*, *Dalbergia sissoo*, *Shorea robusta* and *Tectona grandis*.

Bamboos: *Dendrocalmus spp*: *Dendrocalmus strictus* and *Dendrocalmus hamiltonii*

Exotics: Importance, role in forest economy, purpose of introduction, ecological factors, establishment and management of Eucalyptus, poplar and exotic conifers (*Pinus spp*).

Definition and classification of systems. Clear felling systems, shelter wood system, uniform system, group system, irregular shelter wood systems, strip system, selection system, group selection system, accessory system, coppice system, coppice selection system coppice with standard system.

Paper II Nursery Management (60+ 20 marks)

Definition, importance and objectives of nursery, classifications, nursery sites and area, seed bed, methods of sowing, quality of seeds, time of sowing, shading, watering and damping off. Weeding, soil working and transplanting, plant containers, fertilization, micro-propagation and misting units etc. Nurse crop, cover crops and mulching. Digging of pits and water conservation measures for different sites. Plantation organization and structure; reasons for failures of plantations, types of plantation, types and pattern of planting.

Paper III Agroforestry and Social Forestry (60+ 20 marks)

Definition, objectives, scope and constrains of agroforestry. Choice and characteristics of species for agroforestry. Multipurpose tree (MPTs) in Agroforestry, crop interaction, Soil Productivity aspect of Agroforestry and economic aspect of Agroforestry. Agroforestry systems. Socio-economics and ecological aspect of Agroforestry. Management of trees in Agroforestry, diagnosis and design techniques , Lopping cycle fodder values of trees, alley and hedge cropping , Introduction, objectives, concept, scope and types of social forestry. Social forestry practices. Income and employment, important social forestry tree species, exotic species and their nurseries. Role of social forestry in rural economy, social forestry in relation to agriculture and environment.

Practical (45+15) 60 Marks