Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Agriculture
B.Sc. (Hons) Agriculture
Generic Elective Course (As per New Education Policy)

Subject Code	Subject Name	TEACHING & EVALUATION SCHEME							
		THEORY			PRACTICAL				
		END SEM University Exam	Two term exam*	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	P	CREDITS
AGGE 102	Introduction To Forestry	50	30	00	15	05	2	1	3

Legends: L - Lecture; P – Practical; C-Credit.
*Teacher Assessment shall be based on following components: Quiz / Assignment / Project / Participation in Class,
Course Objective: Basic knowledge of forest
Course Outcomes
1. Student will be able to understand agroforestry system
2. Student will be able to understand forest mensuration

Unit-1: Introduction – definitions of basic terms related to forestry, objectives of Silviculture, forest types in India, Basis of forest classification, and salient features of Indian Forest Policies. Plant Succession: Introduction causes, factors affecting plant succession, Primary & secondary plant succession, Climax theory of plant succession. Climatic and Edaphic factors related to site quality.

Unit-2: Forest regeneration, Natural regeneration - natural regeneration from seed and vegetative parts, coppicing, pollarding, root suckers; Artificial regeneration objectives, choice between natural and artificial regeneration, essential preliminary considerations. Definition, scope and importance – cattle and fodder resources of India, grassland types of India and their distribution – ecological status of Indian grasslands – principles of grassland management for maximizing forage yield and quality.

Unit-3: Crown classification. Tending operations – weeding, cleaning, thinning mechanical, ordinary, crown and advance thinning. Concept of nursery, temporary and permanent nursery, criteria for site selection, layout and design of beds, type of containers its uses and limitations. Silvicultural systems introduction, definitions, scope, classification, formulation and objectives. Clear felling systems and their modifications, shelter-wood systems, selection system, coppice system. Conversion, reasons for conversion and types of conversion.

Unit-4: Forest Mensuration – objectives, diameter measurement, instruments used in diameter measurement; Non instrumental methods of height measurement - shadow and single pole method; Instrumental methods of height measurement-geometric and trigonometric principles,

instruments used in height measurement; tree stem form, form factor, form quotient, measurement of volume of felled and standing trees, age determination of trees. Volume yield and stand tables. Increment, Modern tools like GPS and remote sensing for measurements

Unit-5: Agroforestry – definitions, importance, criteria of selection of trees in agroforestry, Basic Classification of agroforestry systems, shifting cultivation, Taungya, Alley cropping, Wind breaks and Shelter belts, home gardens. MPTs and their role in agroforestry systems, role of nitrogen fixing trees and shrubs, Land capability surveys and classification, concept of watershed management, selection of tree species and agroforestry systems for community lands specially problem soils like salt affected soils, saline and acid soils, waterlogged soils, river banks, eroded barren lands, marginal lands and fragile ecosystems. Energy plantations, roadside plantations. Cultivation practices of two important fast growing tree species of the region. Water harvesting and soil and water conservation aspects of agroforestry.

BAGL 104Practical: Identification of tree-species. Diameter measurements using calipers and tape, diameter measurements of forked, buttressed, fluted and leaning trees. Height measurement of standing trees by shadow method, single pole method and hypsometer. Volume measurement of logs using various formulae. Nursery lay out, seed sowing, vegetative propagation techniques. Forest plantations and their management. Visits of nearby forest-based industries. Fixation of minimum size of Quadrates, Fixation of minimum number of Quadrates, Determination of Frequency, Determination of Density and Abundance, Determination of Dominance, Importance Value Index (IVI).

Books:

1. Dwivedi, A.P.1980. Forestry in India, Jugal Kishore and Company, Dehradun
2. Negi, S.S.1999. Agroforestry handbook, international book distributor, Dehradun.
3. Ram Prakash and Drake Hocking.1986. some favorite trees for fuel and fodder, international book distributor, Dehradun.
4. Singh, S.P. 2009. Tree farming. Agrotech Publishing academy, Udaipur.
5. Singh, S.P.2010. Favorite Agroforestry trees, Agrotech Publishing academy, Udaipur.
6. Principle and practice of silviculture. L. S. Khanna International book distributor, Dehradun.
7. Soil, Plant, Water and Fertilizer Analysis, P K Gupta Agrobios (India); 2nd edition.
8. Ram Parkash (1991). Theory and Practice of Silvicultural Systems International Books & Periodicals, Dehra Dun, 298 pages

(Prof. Vinod Dhar)

Coordinator SVIAG SVVV indore