

**UNIVERSITY OF KERALA**  
**Open Course in BOTANY**  
for the 5<sup>th</sup> semester students of CBCSS First Degree Programmes in subjects  
other than BSc Botany

**SYLLABUS**

Semester: 5  
Course Code: **BO1551.3**  
Instruction Hours/Week: 3

Type of course: **Open Course**  
Course Name: **FORESTRY**  
Number of credits: 2

**UNIT I**

- General introduction to forests- Natural and Man-made; Tropical, temperate, evergreen, Semi-evergreen, deciduous; Monoculture, multipurpose, social and industrial. Forest and gene conservation.

**UNIT II**

- Silviculture- concept and scope of study of natural and artificial regeneration of forests. Clear felling, uniform shelter, wood selection, coppice and conservation systems. Silviculture of some of the economically important species in India such as *Azadirachta indica*, *Tectona grandis*, *Eucalyptus*, *Mahagoni*, *Dalbergia sisso* and *Santalum album*, jack wood, Rubber.
- Wood: Homogenous and heterogenous- spring and autumn wood- Porous and non-porous wood- Heart and sap wood.
- Relevance of wood anatomical studies in Kerala- Identification of wood- preparation of key and their uses

**UNIT III**

- Social and agro forestry. Selection of species and role of multipurpose trees. Food, fodder and energy.
- Social forest- Avenue plantation. Sacred plants- definition, importance of sacred trees like *Ficus religiosa*, *Emblica officinalis*, *Aegle marmelos*.

**UNIT IV**

- Seed orchards, seed dormancy- Types of dormancy, physical and chemical methods to overcome seed dormancy.
- Forest laws- necessity, General principles, Indian forest act 1927 and their amendment.

**UNIT V**

- Forest resources and utilization. Forest products- timber, pulp wood, secondary timbers, non-timber forest products (NTFPs).
- Definition and scope (brief outline) - Gums, resins, fibers, oil seeds, nuts, rubber, canes and bamboos, medicinal plants, charcoal. Lac collection and marketing.

**FIELD STUDY**

1. Identification of wood using key: Teak, Jack wood, Mahogany, Rubber, *Azadirachta*, *Eucalyptus*.
2. Visit to a plywood factory to have knowledge of wood based industry.

**REFERENCES:**

1. Sagreiya, K.P. 1994. Forests and Forestry (Revised by S.S. Negi). National book trust. New Delhi.

2. Tribhawan Mehta, 1981. A handbook of forest utilization. Periodical Expert Book Agency, New Delhi.
3. Kollmann and Cote 1988. Wood science and Technology. Vol.I & II Springer verlag.
4. Sharma P.D. 2004. Ecology and Environment. Rastogi publications, Meerut
5. Singh M.P. and Vinita Vishwakarma. 1997. Forest environment and Biodiversity. Daya publishing house, New Delhi.
6. Tiwari K.M. 1983. Social forestry in India.
7. Anil Kumar Dhiman. 2003. Sacred plants and their medicinal uses. Daya publishing house, New Delhi.
8. B.S. Chundawat and S.K.Gautham. 1996. Text book of Agroforestry. Oxford and IBH Publishing house, New Delhi.
9. A Hand book of Kerala Timbers- KFRI, Trichur.

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