

**Botany/Major-2/Minor/elective/unit-1/1.1**  
**Timber yielding trees of India and their products**  
**Under graduate-B.Sc 2<sup>nd</sup> Year Botany**

**Summary**

All aerial part of perennial trees and their sub aerial parts are woody but all wood is not timber. Botanically timber is a collection of specific cells known as secondary xylem. Primary Xylem and primary phloem are present on either side to cambium. During secondary growth cambium divides reportedly to give rise to secondary Xylem on inner side and phloem on outside. Secondary xylem is the wood.

Timber is a wood which due to its density and secondary metabolite (resins/ tannins etc) contents becomes resistant to natural decay. Depending upon its density it divided into two major types, hard wood/porous wood is derived from angiosperms trees. It shows distinct annual rings and also called porous wood. Soft Wood/Non porous wood is derived from gymnosperms commonly known as conifers. Distinct annual rings are not found. Apart from these two woods now manufactured or engineered wood is also available, it is a composite material made from wood fibers, chips, or sawdust that are bound together with adhesives and compressed under heat and pressure.

Physical properties which are checked in a timber are- tensile strength, shearing strength ,crushing or compression strength ,bending strength, stiffness, toughness density and porosity, flexibility, cleavability, hardness, durability & moisture content. Chemical substances which are found in wood are cellulose, hemicelluloses, lignin, tannin, phenolic substances and oils.

