Hello students, I welcome you all for today's presentation myself Dr. Mehtab Bukhari, professor of Botany from Government, College of Arts, Science and Commerce, Quepem, Goa.

The program is Bachelor of Science for the students of Third year BSc Botany, Semester 5, course code BOD 103 and the course title is Economic and Medicinal Botany.

The title of the unit is general account of economically important plants and the module name is timber plants Sailo and Sheesham including the properties of Sailo and Sheesham wood.

The outline includes identification and botanical description of Sailo and Sheesham, properties of Sailo and Sheesham wood and utilization of Sailo and Sheesham wood.

Upon completion of this module, students recalls the botanical name and description of Sailo and Sheesham, understands the properties of Sailo and Sheesham wood and also will be able to list the uses of Sailo and Sheesham wood.

Wood as you all know is of common importance. They are used in furniture, paper, synthetic nylon, rayon and synthetic gums and, also used for industrial purpose.

Woods are identified with different qualities.

The various wood properties includes density, durability, grain and figure, hardness, Moisture content, porosity, shrinkage and seasoning , stiffness, strength, texture, toughness.

Coming to the timber plant Teak the botanical name of which is *Tectona grandis*, belongs to family Lamiaceae, commonly known as Sailo or Sagwan.

It is indigenous in both peninsulas of India. In the north eastern part of Java and in the other islands of Indian archipelago, it is cultivated in Bengal, Assam and northern India.

Teak is a large deciduous tree. The leaves are elliptic or obovate, Upper side are rough, and underside are clothed with dense hair.

The branchlets are quadrangular and are channelled with quadrangular pith. Inflorescence is very large panicle and the flowers are small and white. Fruit is a hard Bony nut.

These are the images of Tectona grandis plant, the, fluorescence and the leaves.

Teak grows on a great variety of soil. On alluvial soils, the stems generally are fluted and irregularly shaped. Requires perfect drainage. Teak is a light demanding tree requiring full light for its head and a free circulation of air. The plant grows well with rainfall of 130 to 312 centimetres per annum and temperature of 26 to 30 degrees Celsius. It can grow to a height of about 25 to 28 meters with a girth of eight meters.

Teak loses its leaves in dry and hot climatic conditions during November to January. The new foliage comes around May. The flowering season extends from July to August and sets seeds during November to January.

Here is the Tectona grandis timber.

Coming to the properties of teakwood, it is moderately hard, strongly and characteristically scented, containing oil, which is the preservative. The sapwood is white, usually small. The heartwood is dark golden yellow, turning dark brown to black with age. The annual rings marked by one or more lines of regularly arranged pores. In the rest of the earth, the pores are scattered in scanty. Medullary rays are slightly broad numerous, giving a nice silver grain of elongated plates. The pith is large and quadrangular.

Timber is particularly valued for its durability and water resistance. The wood does not shrink, crack, or alter its shape. The wood takes fine polish and does not corrode in contact with metals, it is durable even when not treated with the oil and silica is present in the bark of the wood.

Coming to the uses of Teak wood, it is used in ship-building, boats, construction of houses, bridges, props in coal mines. It is used for interior decoration, railway compartments, railway sleepers. Used for the construction of agricultural implements like ploughs, used for variety of household furniture like tables, chairs, sofas, doors, classroom desks and boards.

These are the items made from teak wood like it is used in furniture, Construction of doors and interior decoration.

Coming to the next timber plant, Sheesham.

Botanical name is *Dalbergia sissoo*, Belongs to family Fabaceae, commonly known as Sheesham or Shisham. It is also known as North Indian Rosewood tree.

It is a fast growing tree, has great commercial importance and the wood of *Dalbergia sissoo* is also known as shisham or sheesham and it is an important commercial timber.

It is native to Indian subcontinent and southern Iran. Riverian beds in Sub Himalayan tract from Indus to Assam and Himalayan Valley.

In India, it is found in Punjab, Bengal, Uttar Pradesh, Assam and Goa. It is a state tree of Punjab state.

Now coming to the botanical description of Sheesham. Sheesham is a medium to large size deciduous tree of about 10 to 15 meters height. The stem is with Gray bark shreds in narrow strips. You can see it here when they mature, shreds into narrow strips. Leaves are compound with 3-5 leaflets, broadly elliptic or ovate and acuminate. Flowers yellowish white, nearly sessile, in short axillary panicles. Pod linear, lanceolate, 1-3 seeded

Sheesham grows well in sandy loamy soil with good drainage. It requires partial shade and sun. Can withstand average annual rainfall up to 2000 mm and drought of 3 to 4 months. Temperature requirement ranges between 10℃ to 40℃ .
It is propagated by using roots, suckers and seeds. The seeds are soaked in water for two days before sowing. The seedlings require partial or full sun for better growth.

Coming to the properties of sheesham wood, Wood is very hard, closed grained. Sapwood small and white, heartwood brown with dark longitudinal veins. Annual rings not distinctly marked. Pores large, scanty in regular patches which are joined by fine wavy streaks often filled with resins. Medullary rays pale, very fine uniform, equidistant and numerous.

North Indian rosewood is dried before being used in furniture- seasoning. It is left in open areas under sun for about six months. Commercially it is dried in closed chambers with hot air circulation for about 7 to 15 days and the ideal moisture level is around 5 to 6 percent depending on the use.

It is among the finest cabinet and veneer timber. It is used for making high quality furniture. For manufacturing plywood logs used in aircrafts. It is used for making laminated skits, musical instruments, agricultural tools, flooring, interior decoration, building boats, construction and decorative ornamental carvings, and the pulp of this plant is used for writing and printing paper.

These are the images of use of Sheesham where we can see it is being used in furniture, wall hanging and decorative items. Here are the decorative items, wall hangings, furniture and even for TV cabinets.

These are some of the other uses of Sheesham, like ornamental, firewood, animal food for the forage, poles, tool handles, pharmaceuticals, shade, shelter. It is used as windbreak, etc.

These are some of the references which I use for preparing the content.
Thank you.