



For B.A Part III

Natural Fibres: Types, Classification, Properties and Uses

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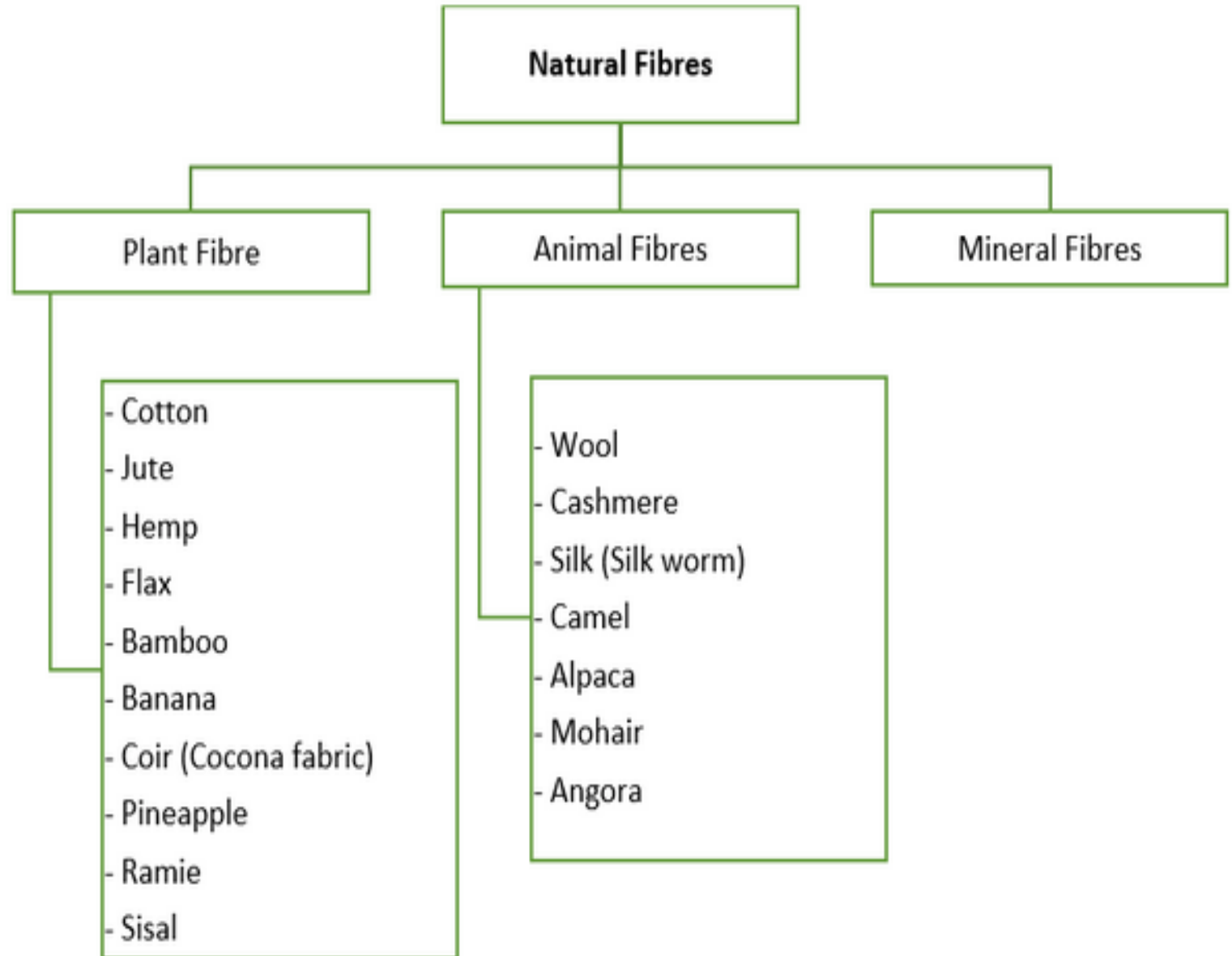
What is Natural Fibre????



- Natural fibres are the fibres that are obtained from plants, animals or mineral sources. Some examples are cotton, silk, wool etc.
- Natural fibres can again be divided into two types based on their source i.e., plants and animals.

Classification of Natural Fibers

- Natural fibres can be classified based on their origin, which includes plant, animal and mineral fibres.



Classification of Natural Fibers

Plant fibres: Plant fibres are obtained from the stem, leaves, and bark of various plants. Examples include cotton, hemp, flax, jute, ramie, bamboo, and sisal.

Animal fibers: These fibres are obtained from the hair, fleece, or silk of various animals. Examples include wool, silk, alpaca, llama, and angora rabbit.

Mineral fibres: Mineral fibres are obtained from minerals. Examples include asbestos and glass fibres.

Microorganism fibres: Those are obtained from microorganisms, such as algae and bacteria.

Cellulosic fibres: These fibres are made from cellulose, the main component of plant cell walls. Examples include cotton, flax, and hemp.

Protein fibres: These fibres are made from protein and are typically obtained from animals. Examples include wool and silk.

Natural composite fibres: Composite fibres are made from a combination of different materials, such as wood fibres mixed with resin, or coconut fibres mixed with rubber.



Types of Natural Fibres

- ❑ **Cotton:** One of the most widely used natural fibres, cotton is known for its softness, breathability, and absorbency. It is used to make clothing, home textiles, and industrial fabrics.
- ❑ **Wool:** Derived from the hair of sheep, wool fibres are naturally crimped, providing insulation and elasticity. It is used to make clothing, blankets, and carpets.
- ❑ **Silk:** Produced by silkworms, silk fibres are smooth and lustrous, making them popular for clothing and home textiles.
- ❑ **Hemp:** A strong, durable fibre made from the stem of the hemp plant, used for rope and other industrial applications.
- ❑ **Flax:** Fibres from the flax plant are strong and stiff and are used to make linen fabrics.
- ❑ **Jute:** Jute is a natural vegetable fibre which is produced from the stem of the plant *Corchorus olitorius* and *Corchorus capsularis*.
- ❑ **Ramie:** Ramie is a natural vegetable fibre which is made from the stem of the plant *Boehmeria nivea*.



Types of Natural Fibres

- ❑ **Coir:** Coir is a natural fibre that comes from the husk of coconuts.
- ❑ **Sisal:** Sisal is a natural fibre that comes from the leaves of the *Agave sisalana* plant.
- ❑ **Bamboo:** Bamboo fibres are strong and durable and are often used in textiles and building materials.
- ❑ **Alpaca, Llama and Angora rabbit:** Fibres obtained from these animals are used for making clothing, blankets, and other textile products.
- ❑ **Wood:** Fibres obtained from trees and other woody plants can be used to make a wide variety of products, including paper and building materials.
- ❑ **Seaweed and Shells:** Natural fibers can be obtained from seaweed and shells, used for making textiles, rope, and other products.

Properties of Natural Fibers



Biodegradable: Natural fibres can decompose naturally, reducing the environmental impact of disposing of them.



Renewable: These are produced from plants and animals that can be replenished.



Absorbent: Natural fibres can absorb moisture and release it again, making them comfortable to wear in warm and humid climates.



Strong and durable: They are strong and durable, making them suitable for a variety of applications.



Insulative: Natural fibres can provide insulation, helping to keep the body warm in cold weather.

Drawbacks of Natural Fibers



Shrinkage: Natural fibre can shrink when exposed to heat or moisture, leading to changes in the fit and shape of clothing and other products made from them.



Wrinkling: These fibres can wrinkle easily and may require ironing or steaming to restore their shape.

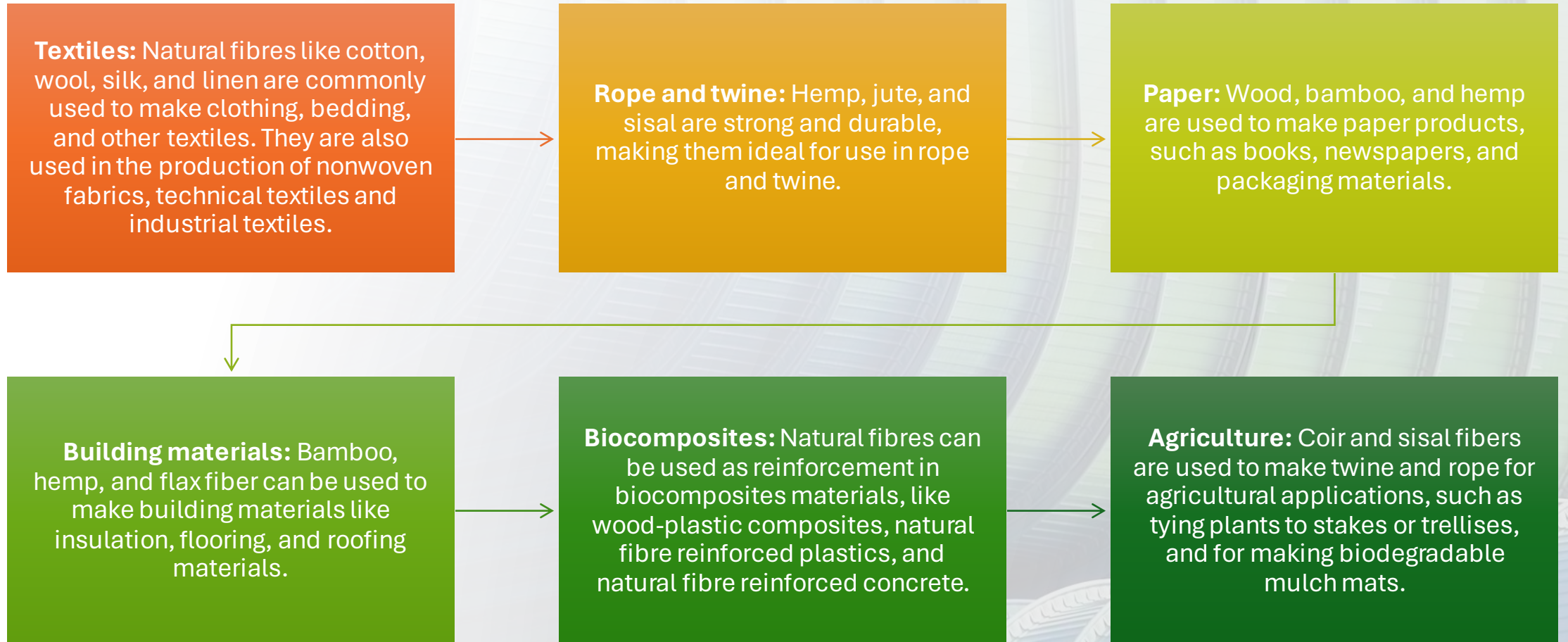


Pilling: Fabric from natural fibers can pill, or form small balls on the surface, after repeated wear and washing.



Cost: More expensive than synthetic fibres due to the cost of growing and harvesting them.

Uses of Natural fibers



Uses of Natural fibers





THANK YOU