

Lesson at a Glance

- **Fibres:** The thin strands of thread which are used to make yarns are called *fibres*. They are obtained from natural as well as man-made sources.
- **Natural Fibres:** The fibres that we get from plants and animals are called *natural fibres*. For example, Jute, silk, cotton and wool are obtained from natural sources like plants and animals.
- **Man-made/Synthetic Fibres:** The fibres which are not obtained from plants or animal sources and are made from chemical substances are called *man-made* or *synthetic fibres*. For example, Nylon, polyester and rayon are man-made fibres.
- **Animal Fibres:** Wool and silk fibres are obtained from animals. Wool is obtained from fleece of sheep or goat. It is also obtained from the hair of rabbits, camels and yak. Silk fibre is drawn from the cocoon of silkworm.
- **Yarn:** Commonly known as thread, they are formed by twisting the fibres. This brings the fibres together to form a *yarn*. The process of making yarn from fibres is called *spinning*. Twisting of fibres increases cohesion and strength of fibres.
- **Fabric:** Fabric means a woven material, a textile or other material resembling woven cloth. Fabric is made up of yarns. Fabrics are made by the two main processes known as weaving and knitting.
- **Cotton Wool:** It is a fluffy wadding of a kind, originally made from raw cotton.
- **Cotton:** It is white fibrous substance covering the seeds of cotton. Cotton plants are grown as a crop to obtain cotton. Cotton plants are usually grown at places having black soil and warm climate.

Cotton is grown in Gujrat, Maharashtra, Rajasthan, Tamil Nadu, Punjab and Madhya Pradesh.

- **Cotton Fibre:** The hair-like structure that grows on the surface of cotton seeds is called cotton fibre.
- **Cotton Boll:** The fruit of the cotton plant is known as *cotton boll*. Cotton boll is about the size of a lemon. After maturity, the cotton bolls burst open and the seeds covered with cotton fibre become visible exposing the fibres. As the fibres dry under the sun, they become fluffy.
- **Ginning:** Cotton bolls are usually picked by hand. Fibres are separated from the seeds by combing. This process is called *ginning of cotton*.
- **Charkha:** A device used for spinning. It is operated by hand.
- **Bales:** After ginning, cotton is compressed very tightly into bundles which may weigh about 200 kg. These compressed cotton bundles are called *bales*.
- **Silver:** Raw cotton is cleaned, combed and straightened and finally converted into rope-like structure called *silver*.
- **Weaving:** The process of arranging two sets of yarns together to make a fabric is called *weaving*.
- **Looms:** Weaving of fabric is done on *looms*. They are either hand operated or power operated.
- **Knitting:** The process in which a single yarn is used to make a piece of fabric is called *knitting*.
- **Textile Industry:** The industry in which fibres are used to make clothes is called *textile industry*.
- **Uses of Cotton:** Some of the uses of cotton are:
 - Cotton yarn is extremely useful in making garments, bedsheets, towels and other textile items.
 - Cotton is used as absorbent in hospitals and also preparing bandages.
 - Cotton is used as filler in mattresses, pillows and quilts.
 - Cotton cloth pieces are extensively used as mops in household and for cleaning machines in industries.

• **Jute:** Jute is obtained from the stem of jute plant, often called *putson*. Jute is mainly grown in West Bengal, Bihar and Assam.

• **Process of Obtaining Jute Fibre:**

— The jute plant is normally harvested when it is at flowering stage.

— The stems of harvested plants are tied up in bundles.

— Stem bundles of jute plants are immersed in stagnant water for about 10 to 15 days or more.

When stems rot and the gummy skin rots out to separate fibres, stem bundles are taken out of water. This process is called *retting*.

— The fibres are stripped off the stalk by hand. The fibres are then washed, dried in the sun and finally baled.

• **Uses of Jute:**

— Jute fibres are used for making gunny bags, cheap rugs, carpets, curtains, coarse clothes, ropes, potato sacks, etc.

— Nowadays, fine quality of jute is used in making jute fabric.

• **Clothing** is necessary for:

— Protection against wind and weather,

— Protection against injury,

— Maintenance of body temperature,

— Decoration of the body to look good.

• Woollen and cotton clothes are rough to touch but clothes made up of synthetic fibres such as rayon, nylon or polyesters are smooth to touch.

■ TEXTBOOK QUESTIONS SOLVED ■

Q.1. Classify the following fibres as natural or synthetic: nylon, wool, cotton, silk, polyester, jute.

Ans. **Natural fibres:** wool, cotton, jute, silk.

Synthetic fibres: nylon, polyester.

Q.2. State whether the following statements are 'true' or 'false':

(a) Yarn is made from fibres.

(b) Spinning is a process of making fibres.

(c) Jute is the outer covering of coconut.

(d) The process of removing seeds from cotton is called ginning.

(e) Weaving of yarn makes a piece of fabric.

(f) Silk fibre is obtained from the stem of a plant.

(g) Polyester is a natural fibre.

Ans. (a) True (b) False (c) False (d) True

(e) True (f) False (g) False

Q.3. Fill in the blanks:

(a) Plant fibres are obtained from _____ and _____.

(b) Animal fibres are _____ and _____.

Ans. (a) cotton plants, jute plants

(b) wool, silk

Q.4. From which part of the plant cotton and jute are obtained?

Ans. (i) Cotton – Cotton bolls (from the surface of cotton seeds) (fruit)

(ii) Jute – Stem

Q.5. Name two items that are made from coconut fibre.

Ans. (i) Ropes (ii) Mats

Q.6. Explain the process of making yarn from fibre.

Ans. Yarns are made up of thin strands called fibres. The process of making yarn from fibres is called spinning. In this process, a mass of cotton wool are drawn out and twisted. This brings the fibres together to form yarn.