

## FIBRE TO FABRIC

### I. VERY SHORT ANSWER (1M):

1. What are fibres? [Hint: They are long, thin, flexible thread like structures used to make yarn]
2. Define sericulture. [Hint: Production of raw silk by raising silkworms is called sericulture]
3. What does wool yielding animals bear on their body? [Hint: Fleece /hair made of proteins]
4. Where is silk yarn or thread obtained from? [Hint: From cocoon of the silk moth]
5. Which is the most common silk moth? [Hint: Mulberry silk moth]
6. What are natural fibre? Explain the different types of natural fibre? [Hint: The fibre obtained from plants or animals. Plant- Cotton, Jute, Coir. Animal- Wool, Silk]
7. What is Reeling? [Hint: The process of taking out thread from the cocoon for use as silk is called Reeling the silk.]
8. Name the different types of silk known to you. [Hint: Tassar silk, Mooga silk, Mulberry silk, Kosa silk]
9. What are yarns? [Hint: long continuous length of interlocked fibres are called yarns.]
10. What are plant fibres? [Hint: Plant fibres are thread-like filaments and structural material (cellulose) of plants. They are obtained from various parts of the plant. E.g. Cotton, Jute, Flax.]

For question numbers 11 to 13, two statements are given- one labelled Assertion (A) and the other labelled Reason (R).

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below.

- i) Both A and R are true and R is the correct explanation of the assertion.
- ii) Both A and R are true but R is not the correct explanation of the assertion.
- iii) A is true but R is false.
- iv) A is false but R is true

11. **Assertion (A):** The process of selecting parents for obtaining special characters in their offspring, is termed ‘selective breeding’

**Reason (R):** Selective breeding is done in silkworms.

Ans: iii) A is true but R is false.

12. **Assertion (A):** The process of removing fleece from the sheep is called scouring.

**Reason (R):** The fleece removed does not harm the animal

Ans: iv): A is false but R is true.

13. **Assertion (A):** The rearing of silkworms is called sericulture.

**Reason (R):** Silk worms are reared to obtain cocoons that produce silk fibre

Ans: i) Both A and R are true and R is the correct explanation of the assertion.

## II. PASSAGE BASED QUESTIONS:

Silk moth is a large white insect. Egg is the first stage of a silkworm’s life cycle. The female moth lays its eggs during summer. The eggs hatch into larvae, which feed on tender mulberry leaves. This stage lasts for about 27 days and during this time the larvae shed their skin four times. The process of shedding the skin is called moulting. The larvae spin fine silk filament around it to form a cocoon and attains the pupal stage. The pupa changes into the moth which comes out of the cocoon and the cycle continues.

1. Name the food eaten by the larvae of silkworm.

- a) Grass
- b) Mulberry leaves
- c) Mulberry fruit
- d) None of the above

2. Name the process of shedding the skin.

- a) Moulting
- b) Shredding
- c) Shearing
- d) Scouring

3. What is the first stage of a silkworm’s life cycle?

- a) Insect
- b) Egg
- c) Worm
- d) Moth

4. What do the eggs hatch into?

- a) Pupa
- b) Moth
- c) Larvae
- d) All of the above

### **III. CASE STUDY BASED QUESTIONS**

1. Sania got upset on learning that for obtaining 1 kg of raw silk around 5,000 cocoons are killed. But her mother explained to her that silkworms are also conserved in this process for obtaining silk next time. Also, it is the source of income to many rural and needy people.

i) Why is silk famous? [Hint: Silk is famous for its smooth and lustrous fibre which is also strong.]

ii) What is a cocoon? [Hint: The caterpillar completely covers itself by silk fibres and turns into pupa. This covering is known as **cocoon**.]

2. Many occupational hazards are associated with wool and silk production. Most of these hazards can be prevented by just having a proper awareness and knowledge of how to tackle such conditions. The main reason for occupational hazards in India is due to poverty, illiteracy and poor hygienic conditions.

i) What occupational hazards are associated with the wool and silk industries? [Hint: Sorter's disease, respiratory disease.]

ii) How can most of the occupational hazards be minimized? [Hint: Occupational hazards can be minimised by-

a. taking precautions while handling animals like wearing gloves, mask, using disinfectants, washing hands, etc.

b. having proper knowledge and awareness of signs and symptoms of diseases of humans and animals.]

### **IV. a) SHORT ANSWER TYPE QUESTIONS (2 M):**

1. What do you mean by selective breeding?

[Hint: The process of selecting parents for obtaining special characters in their offspring, such as soft under hair in sheep, is termed as selective breeding.]

2. Why do some animals have thick coats of hair on their body?

[Hint: Hair traps a lot of air. Air is a poor conductor of heat, it does not allow body heat to escape to the surrounding. So, hair keeps these animals warm.]

3. Why is shearing done only in summer?

[Hint: Sheep cannot survive without their coat of hair during winter.]

4. What type of feed (food) is given to sheep? [Hint: Sheep are herbivores which feed generally on grass and leaves. Rearers also feed them corn, jowar, mixture of pulses, and oil cakes]

**b) SHORT ANSWER TYPE QUESTIONS (3 M):**

1. The hair of animal A is cut from its body in one piece along with a layer of its skin in the form of B. This process is called C. The B of this animal is then cleaned by using soap and a lot of water by a process D. The cleaned B is then converted into yarn and then fabric by method E.

- a) What could be A and B?
- b) Name the process C, D and E.

[Hint: A- Sheep B- Fleece C- Shearing D- Scouring E- Knitting]

2. a) Identify the process shown in the adjacent picture [Hint: Scouring]



b) Explain the process. [Hint: The sheared skin with hair is thoroughly washed in tanks to remove grease, dust and dirt. This is called scouring. It is done by machines nowadays.]

3. What do you mean by the following terms?

- a) Shearing
- b) Sorting

Shearing	Sorting
The process of removal of the fleece of the sheep along with the uppermost layer of skin	The process of separating the fibers according to their size

4. Why is the silk fibre of mulberry silk moth preferred?

[Hint: The silk fibre obtained is soft, lustrous, and elastic and can be dyed in beautiful colours.]

**V. LONG ANSWER TYPE QUESTIONS (5 M):**

1. What qualities of silk make it more preferable and costlier?

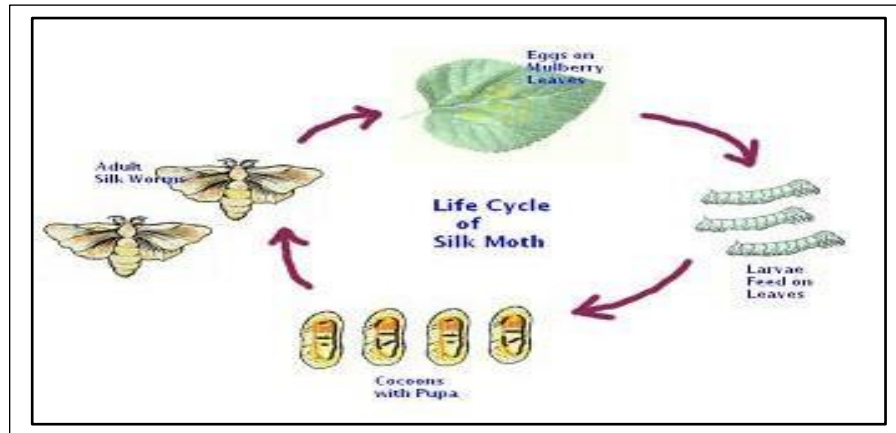
[Hint:

- \*It is soft, smooth and lustrous.
- \*It is the strongest natural fibre.
- \*It absorbs moisture readily.
- \*It is cool to wear in summer and warm in winter }

2. Paheli wanted to buy a gift made of animal fibre obtained without killing the animal. Which of the following would be the right gift for her to buy- woollen shawl or silk scarf or leather belt?

[Hint: Silk scarf and leather belt is obtained by killing animals, but wool is produced from shearing of sheep's skin .]

3. Describe the life history of silk moth with the help of figures of various stages.



- The female silk moth lays eggs, from which hatch larvae which are called **caterpillars** or **silkworms**.
- They grow in size. When the caterpillar is ready to enter the next stage of its life history called **pupa**, it first weaves the net to hold itself. Then it swings its head from side to side in the form of figure eight (8).
- During these movements of head, the caterpillar secretes fibre made of a protein which hardens on exposure to air and becomes silk fibre.
- The caterpillar completely covers itself by silk fibres and turns into pupa. This covering is known as **cocoon**.

4. Paheli went to the market to buy saris for her mother. She took out a thread from the edge of the two saris shown by the shopkeeper and burnt them. One thread burnt with the smell of burning hair and the other burnt with the smell of burning paper. Which thread is from a pure cotton sari and which one from a pure silk sari? Give reason for your answer.

[Hint: In the first sari, one thread which burnt with a smell of burning hair is from pure silk, silk and hair are protein fibres. So, on burning these threads, a smell of burning hair comes out. In the second sari, the second thread which burnt with the smell of burning paper is from a cotton sari. Both cotton and paper are cellulose and on burning, they give a similar smell.]