

Fibre to Fabric

IN TEXT QUESTIONS

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1. Why yak, goat, sheep have a thick coat of hair?

Ans. As we know, air is a poor conductor of heat and the hair of these animals trap a lot of air due to which animals feel warm.

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2. Does shearing hurt the sheep?

Ans. Shearing does not hurt the sheep because the uppermost layer of the skin is dead. Also, the hair of sheep grow again.

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3. What type of disease may be caused by wool industry?

Ans. A fatal blood disease known as 'sorter's disease' caused by a bacterium, **anthrax** produced in wool industry.

4. Why a cotton garment cannot keep us as warm in winter as woollen sweater does?

Ans. Cotton clothes are thin and do not have space in which air can be trapped. Thus, cotton clothes do not prevent heat coming out of our body.

Woollen clothes keep us warm during winter because wool is a poor conductor of heat and it has air trapped in between the fibres.

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5. What happens when synthetic silk and woollen silk burn?

Ans. Since, synthetic silk is made up of plant, so it smells like burning paper or plastic but woollen silk is made up of protein molecule and hence it gives burning hair smell on burning.



NCERT

Exercises

(Questions-Solutions)

EXERCISES

Page No. 32

1. You must be familiar with the following nursery rhymes.

(i) 'Baa Baa! Baa Baa! Black sheep, have you any wool.'

(ii) 'Mary had a little lamb, whose fleece was white as snow.'

Answer the following:

(a) Which parts of the black sheep have wool?

(b) What is meant by the white fleece of the lamb?

Ans. (a) The black sheep in the poem seems to have wool on almost all the parts as it in the poem, it offers wool enough to fill three bags full.

(b) Here, the white fleece of the lamb refers to pure white coloured hairy skin of the lamb.

2. The silkworm is (i) a caterpillar, (ii) a larva. Choose the correct option.

(a) (i)

(b) (ii)

(c) Both (i) and (ii)

(d) Neither (i) nor (ii)

Ans. (c) Both (i) and (ii), larva and caterpillar are silkworms.

3. Which of the following does not yield wool?

(a) Yak

(b) Camel

(c) Goat

(d) Woolly dog

Ans. (d) Woolly dog does not yield wool.

4. What is meant by the following terms?

(a) Rearing

(b) Shearing

(c) Sericulture

Ans. (a) **Rearing** It is taking care of livestock (e.g. goats, cows, sheep, etc) for commercial purpose by taking them out in herds for grazing, feeding them on a mixture of pulses. Corn, jawar, oil cakes (material left after taking out oil from seeds) and minerals for better growth and yield of produce like meat, milk, wool. Beside this in extreme climate conditions like winter, these are also provided shelter and fed on leaves, grain and dry fodder.

(b) **Shearing** It is the process in which fleece (hair) of the sheep along a thin layer of skin is removed from its body. Machines similar to those used by barbers are used to shave off hair. Generally, the hair are removed during the hot weather which enables the sheep to survive without their protective coat of hair. Shearing does not hurt the sheep as the uppermost layer of the skin is dead.

(c) **Sericulture** Sericulture or silk farming is the rearing of silkworms for the production of raw silk. For obtaining silk, silkworm moths are reared and their cocoons are collected to get silk threads. Silk yarns come from the cocoon of the silkworm. The caterpillar hatches from a very small egg and is an eating machine. When the silkworms start its spinning process in the cocoon, the worm's head is coated with a gummy protein called sericin.

silkworm rotates its body thousands of times producing one continuous strand of silk of length of 12 football fields. The silk adheres to itself forming the cocoon.

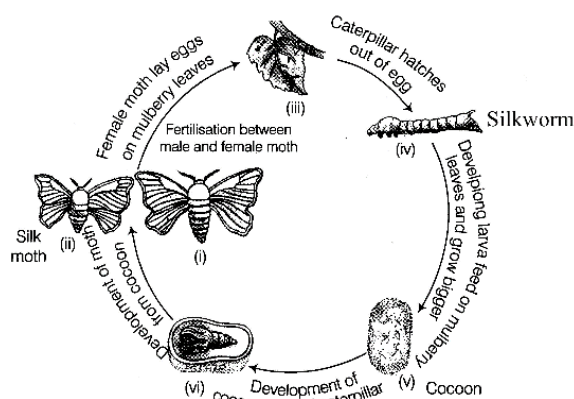
5. Given below is a sequence of steps in the processing wool. Which are the missing step? Add them.

Shearing, Sorting,,

- Ans. (i) Shearing (ii) Scouring (iii) Sorting
(iv) Fibre spinning (v) Dyeing (vi) Rolling into the yarn

6. Make sketches of the two stages in the life history of the silk moth. Which are directly related to the production of silk.

Ans.



Life history of silk moth

- (i) Male adult silk moth (ii) Female adult silk moth
(iii) Eggs on mulberry leaves (iv) Silkworm
(v) Cocoon (vi) Cocoon with developing moth

7. Out of the following which are the two terms related to silk production?

Sericulture, floriculture, moriculture, apiculture, and silviculture

Hints

- (i) Silk production involves cultivation of mulberry leaves and rearing silkworms.
(ii) Scientific name of mulberry is *Morus alba*.

Ans. Sericulture, moriculture terms related to silk production.

8. Match the words of Column I with those given in Column II.

	Column I		Column II
(a)	Scouring	(i)	Yields silk fibres
(b)	Mulberry leaves	(ii)	Wood yielding animal
(c)	Yak	(iii)	Food of silkworm
(d)	Cocoon	(iv)	Reeling
		(v)	Cleaning sheared skin

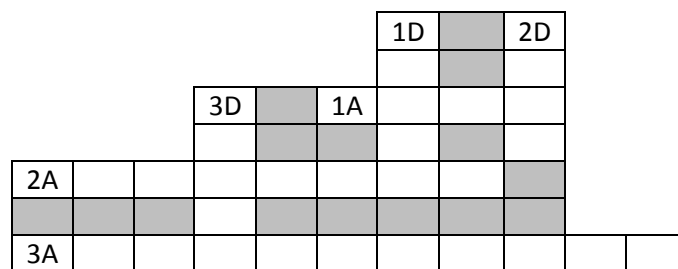
Ans.

	Column I		Column II
(a)	Scouring	(i)	Cleaning sheared skin
(b)	Mulberry leaves	(ii)	Food of silkworm
(c)	Yak	(iii)	Wool yielding animals
(d)	Cocoon	(iv)	Yields silk fibres

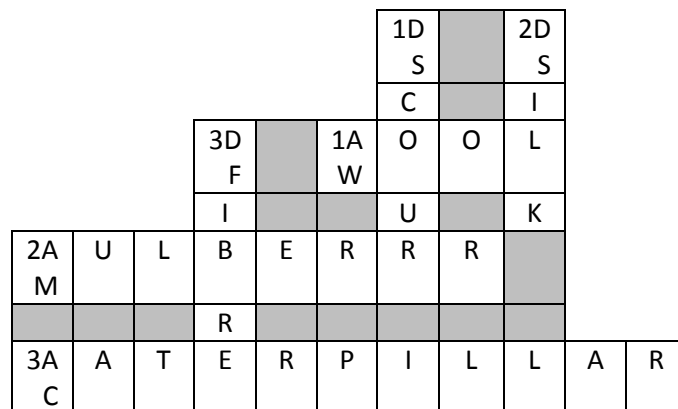
Reeling It is a rotator device used for reeling of silk.

9. Given below is a crossword puzzle based on this lesson. Use hints to fill in the blank spaces with letters that complete the words.

(D)	Down	(A)	Across
1.	Through washing	1.	Keeps warm
2.	Animal fibre	2.	Its leaves are eaten by silkworms
3.	Long thread like structure	3.	Hatches from egg of moth



Ans.



1D – Scour

2D – Silk

3D – Fibre

1A – Wool

2A – Mulberry

3A – Caterpillar



NCERT

Exemplar

(Problems-Solutions)

MULTIPLE CHOICE QUESTIONS

1. The rearing of silkworms for obtaining silk is called

- (a) cocoon
- (b) silk
- (c) sericulture
- (d) silviculture

Ans. (c) Rearing of silkworm for obtaining silk is called sericulture.

2. Which of the following is not a type of silk?

- (a) Mulberry silk
- (b) Tassar silk
- (c) Mooga silk
- (d) Moth silk

Ans. (d) Moth silk is not a type of silk. It is an adult silkworm.

3. 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?

- (a) Woollen shawl
- (b) Silk scarf
- (c) Animal fur cap
- (d) Leather jacket

Ans. (a) Woollen shawl is made up of only by fleece (hair) of sheep.

4. Silk fibre is obtained from

- (a) fleece of sheep
- (b) cotton ball
- (c) cocoon
- (d) shiny jute stalk

Ans. (c) Silk fibre is obtained from cocoon.

5. Wool fibre cannot be obtained from which of the following?

- (a) Goat
- (b) Llama
- (c) Alpaca
- (d) Moth

Ans. (d) Wool fibre cannot be obtained from moth.

6. Selective breeding is a process of

- (a) selecting the off springs with desired properties
- (b) selecting the parents with desired properties
- (c) selecting an area for breeding
- (d) selecting fine hair for good quality wool

Ans. (b) The process of selecting parents for obtaining desired characters in their off springs such as soft under hair in sheep is termed as selective breeding.

7. The general process that takes place at a sheep shearing shed is

- (a) removal of fleece
- (b) separating hair of different textures
- (c) washing of sheep fibre to remove grease
- (d) rolling of sheep fibre into yarn

Ans. (a) Removal of fleece takes place at a sheep shearing shed.

- 8. The term sericulture is used for**
(a) culture of bacteria
(b) rearing of silkworm
(c) making silk fabric from silk yarn
(d) production of sarees

Ans. (b) The term sericulture is used for rearing of silkworm.

- 9. Reeling of silk is**
(a) a process of making silk reels
(b) spinning of silk fibres
(c) weaving of silk cloth
(d) the process of taking silk threads from cocoon

Ans. (d) Reeling of silk is the process of taking silk threads from cocoon.

- 10. Silkworms secrete fibre made of**
(a) fat (b) cellulose
(c) protein (d) nylon

Ans. (c) Silk is a natural protein fibre.

VERY SHORT ANSWER TYPE QUESTIONS

- 11. Fill in the blanks in the following statements.**
(a) and fibres are obtained from animals.
(b) Silk fibres come from of silk
(c) Wool yielding animals bear on their body.
(d) Hair trap a lot of..., which is a poor of heat.

Ans. (a) Silk, wool (b) cocoons, moth
(c) hair (d) air, conductor

- 12. State whether the following statements are True or False. If False, correct them.**
(a) Silkworms are caterpillars of silk moth.
(b) In India, camels and goats are generally reared for obtaining wool.
(c) The rearing of silkworms for obtaining silk is called silviculture.
(d) In the process of obtaining wool from fleece, sorting is done after scouring.
(e) Yak hair are not used to make woollen fabric.

Ans. (a) True
(b) False, generally sheep are reared.
(c) False, it is sericulture.
(d) True
(e) False, yak hair are used to make woollen fabric.

- 13. How do the hair of certain animals help in keeping their bodies warm?**

Ans. Hair traps a lot of air which is a poor conductor of heat result in their body warm.

SHORT ANSWER TYPE QUESTIONS

14. Various steps involved to obtain wool from fleece given here.

- (i) Picking out the burrs
- (ii) Dyeing in various colours
- (iii) Shearing
- (iv) Scouring
- (v) Sorting

Write the above steps in the correct sequence in which they are carried out.

Ans. Correct sequence is

(iii) Shearing



(iv) Scouring



(v) Sorting



Picking out the burrs



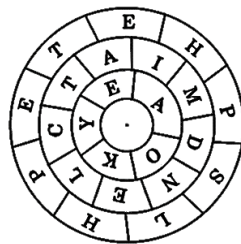
(ii) Dyeing in various colours

15. Some words related with silk are jumbled up. Write them in their correct form.

- (a) TURECULRISE (b) WILSMORK
- (c) BELMURRY (d) RINGLEE

Ans. (a) Sericulture (b) Silkworm
(c) Mulberry (d) Reeling

16. Figure shows three rings of circles with letters in them. Some of these letters in each ring can form the name of some wool yielding animal. Find the names of these animals.



Ans. These animals are yak, camel and sheep.

17. Write a caption for each of the figures given as figure (a-d)

(a)

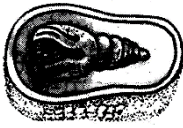


(b)



(c)





(d)

- Ans.** (a) Eggs of silk moth on mulberry leaves
(b) Silkworm
(c) Cocoon
(d) Cocoon with developing moth

- 18.** A wholesale woollen fibre dealer gets the woollen fibre of different textures sorted for various purposes. Match the items in Column I with the woollen fibre in Column II.

	Column I		Column II
(a)	Pashmina shawl	(i)	Camel wool
(b)	Woolen carpet	(ii)	Angora wool
(c)	Baby blanket	(iii)	Kashmiri goat
(d)	Wollen sweater	(iv)	Sheep wool

- Ans.** (a) – (iii), (b) – (i), (c) – (ii), (d) – (iv)

LONG ANSWER TYPE QUESTIONS

- 19.** Complete the paragraph related to the life history of silk moth by filling in the blanks.
The(a)..... silk moth lays(b)..... , from which hatch.....(c)..... called(d)..... or(e)..... .They grow in size and when the caterpillar is ready to enter the next stage of its life history called (f) , it first weaves a covering to hold itself, which is known as (g)

Ans. The missing words are

- (a) female (b) eggs
(c) larvae (d) caterpillar
(e) silkworms (f) pupa
(g) cocoon

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

- Ans.** In first saree, one thread which burnt with a smell of burning hair is from pure silk, silk and hair are protein fibres. So, on burning these thread, a smell of burning hair comes out.
In second saree, second thread which burnt with the smell of burning cotton and paper because cotton and paper both are carbohydrates and on burning they give similar smell.

- 21.** Explain the phrase - 'Unity is Strength' on the basis of the making of fabric from fibre.

- Ans.** Fibres and fabric play a large role in everyday applications. A fibre is a hair-like strand of material. They are the smallest visible unit of a fabric and denoted by being extremely long in relation to their width. Fibres can be spun into yarn and made into fabric. A single fibre is too weak to break but when it once made a fabric it is difficult to tear. Fabric needs more energy to tear apart as compared to a single fibre.

- 22.** Write various steps for processing fibres into wool.

- Ans.** The various steps for processing fibres into wool are
(a) Removal of fleece from the body of sheep, the process called shearing.

- (b) Washing of sheared skin in tanks, the process called scouring.
- (c) Separation of hair of different textures called sorting.
- (d) The small fluffy fibres, called burrs are picked out from the hair.
- (e) Fibres are dyed in various colours.
- (f) Fibres are straightened, combed and rolled into yarn. The longer fibres are made into wool for sweaters.