

Silk in Chemistry Questions with Solutions

Q1. Which of the following silk varieties is not manufactured in India?

- a.) Muga silk
- b.) Mulberry silk
- c.) Tassar silk
- d.) American silk

Correct Answer – (d.) American silk.

Q2. How many stages are there in the silkworm's lifecycle?

- a.) 3
- b.) 4
- c.) 5
- d.) 6

Correct Answer – (b.) 4.

Q3. Which of the following species produces higher quality silk?

- a.) *Attacus atlas*
- b.) *Bombyx mori*
- c.) *Attacus ricini*
- d.) *Antheraea assamensis*

Correct Answer – (b.) *Bombyx mori*.

Q4. Silk is produced by ____.

- a.) Adult moth
- b.) Cocoon
- c.) Larva
- d.) All of the above

Correct Answer – (c.) Larva.

Q5. Which of the following is called artificial silk?

- a.) Nylon
- b.) Rayon

- c.) Polyester
- d.) Acrylic

Correct Answer – (b.) Rayon

Q6. What is silk?

Answer: Silk is a natural protein fibre that can be used to make textiles. It is an important animal fibre derived from silkworms.

Q7. What is the process of taking out silk threads from the cocoon called?

Answer: The process of extracting threads from a cocoon for use as silk is known as reeling the silk. Reeling is done using special machines that unwind the silk threads or fibres from the cocoon.

Q8. How many eggs does a female silk moth lay at a time?

Answer: A female silk moth can lay hundreds of eggs at a time.

Q9. What is sericulture?

Answer: Sericulture is the cultivation of silkworms and the extraction of silk from them. Domestic silkmoth caterpillars (also known as 'Bombyx Mori') are the most commonly used silkworm species in sericulture. Other silkworm species (such as Eri, Muga, and Tasar) are also raised for the production of 'wild silks.'

Q10. List the different types of silk.

Answer: The different types of silk are:

- Mulberry silk
- Spider silk.
- Sea silk
- Tussar silk
- Eri silk
- Muga silk (An Assam silk)
- Art silk (Bamboo silk)

Q11. What is the lifecycle of a silkworm?

Answer: The mulberry silkworm's life cycle lasts 45-55 days and includes the stages- egg, larva, pupa, and moth.

Q12. How to identify whether the silk is real or not?

Answer: Following are the ways in which real silk can be identified:

- Real silk is completely smooth to the touch, with a soft, almost waxy feel. In addition, if you scrunch it up in your hand, you should hear a crunching sound.
- The ring test is a common and simple method because silk is naturally flexible and smooth. The only requirement is that the silk not be too heavy. Pull a light-weight silk fabric through a ring if you have one. It's real silk if it can be threaded and pulled through easily.

Q13. What precautions should be taken to preserve silk?

Answer: Silk is a natural fibre and is very costly. Thus it should be stored very carefully. Some precautions to keep in mind are as follows:

- The best way to store silk is to hang it in a cotton garment bag to keep bugs away. Fold the garments with acid-free tissue paper and store them in a cotton storage box if storing for an extended period of time.
- Silk should never be spot-treated - If you drop something on a silk item and wash only the soiled portion, the soiled portion will fade quickly.
- Never dry silk garments in the dryer.

Q14. What are the disadvantages of silk?

Answer: Some disadvantages of silk are:

- Silk is among the most expensive fabrics available.
- Silk requires more maintenance than other fabrics.
- Silk fades quickly in direct sunlight. A new garment dried outside can appear old and worn.
- The fabric has a tendency to yellow over time and is especially susceptible to perspiration stains.
- Travelling with silk garments can be inconvenient because silk wrinkles easily and necessitates the use of a steam iron.
- Since silk absorbs water, liquid stains are visible.

Q15. Explain the properties of silk.

Answer: The properties of silk are as follows:

- **Strength:** Silk is one of the strongest fibres.
- **Breathability:** Silk is a lightweight, breathable fabric. It reduces the risk of overheating while you go about your day.
- **Elasticity:** Silk clothes retain their shape well if properly cared for. Silk is flexible and has some elasticity, so it can, to some extent, pull itself back into shape after stretching.
- **Absorbency:** Silk is relatively absorbent. Water, on the other hand, weakens the fibres, so wash your silk with care.
- **Thermal regulation:** Silk regulates body temperature, so it can keep you cool in hot weather and warm in cold weather.
- **Speed of drying:** Silk dries quickly, making it ideal for managing laundry or going about your daily activities.

- **Shine:** Silk fibres are smooth and straight, unlike wool, which has scaliness that can be seen under a microscope. This distinction makes silk smoother to the touch and shinier to the eye, resulting in an overall luxurious feel.

Practice Questions on Silk

Q1. The protein in silk is known as ____.

- a.) Casein
- b.) Fibroin
- c.) Sericin
- d.) Both (b) and (c)

Correct Answer – (d.) Both (b) and (c)

Q2. Silkworms are the ____ of silk moths.

- a.) Eggs
- b.) Cocoon
- c.) Caterpillar
- d.) Larva

Correct Answer – (c.) Caterpillar

Q3. What are the uses of silk?

Answer: Silk is a naturally occurring protein fibre that can be used to make textiles. Silk is commonly used to make Silk Sarees. Other applications include bedding, silk pillows, tablecloths, parachutes, wall hangings, and so on. Wool is used to make clothing, blankets, sweaters, carpets, and other items.

Q4. What is artificial silk?

Answer: Rayon is also known as artificial silk. It has silk-like properties. Rayon fibre is commonly referred to as artificial silk because it has all of the properties of the silk-like appearance and feel of silk. The base of rayon fabric is made of wood pulp. Artificial silk or rayon is manufactured in factories and processed in bulk, requiring less labour and expertise, whereas silkworms produce original silk and require a great deal of skill, effort, and time to process the worms and remove silk from them. As a result, artificial silk is less expensive than natural silk.

Q5. How is silk processed?

Answer: The life cycle of a silk moth starts when a female silk moth lays eggs. The caterpillars or larvae hatch from the silk moth eggs. Silkworms feed on mulberry leaves and produce pupa. To keep itself together during the pupa stage, the silkworm weaves a net around itself. Then it swings its head, spinning a protein fibre that eventually becomes silk. The cocoon is a protective layer formed by several caterpillars around the pupa. The silk thread (yarn) is made from the cocoon of the silk moth. Silk processing is the extraction of silk from the cocoon. By exposing silk to sunlight, it is separated from the cocoon. The process of unwinding silk from a cocoon begins after the silk has been reeled. After that, the silk thread is bleached. After that, the silk fibre is spun into silk threads.

