

Very Short Answer Questions

Q. 1. Cotton is a natural polymer. What is its chemical name? [NCERT Exemplar]

Ans. Cellulose

Q. 2. A synthetic fibre which looks like silk is obtained by chemical treatment of wood pulp. It is, therefore, known as artificial silk. What is its common name? [NCERT Exemplar]

Ans. Rayon

Q. 3. Terycot is made by mixing two types of fibres. Write the names of the fibres. [NCERT Exemplar]

Ans. Terylene and cotton.

Q. 4. Plastic articles are available in all possible shapes and sizes. Can you tell why? [NCERT Exemplar]

Ans. Plastic is easily moldable so the articles can be made in any shape and size.

Q. 5. Plastic is used for making a large variety of articles of daily use and these articles are very attractive. But it is advised to avoid the use of plastic as far as possible. Why? [NCERT Exemplar]

Ans. Due to non-biodegradable nature it causes environmental pollution.

Q. 6. Why is it not advisable to burn plastic and synthetic fabrics? [NCERT Exemplar]

Ans. Burning of plastic and synthetic fabrics produce lots of poisonous gases causing air pollution.

Q. 7. Select the articles from the following list which are biodegradable.

a. Paper

b. Woollen clothes

c. Wood

d. Aluminium can

e. Plastic bag

f. Peels of vegetables

[NCERT Exemplar]

Ans. (a), (b), (c) and (f)

**Q. 8. A bucket made of plastic does not rust like a bucket made of iron. Why?
[NCERT Exemplar]**

Ans. Plastic is a non-reactive material. It does not react with air and water and thus does not rust.

Q. 9. Why rayon is called artificial silk?

Ans. Rayon fibres has shine like silk in appearance, therefore it is called artificial silk.

Q. 10. What is PET?

Ans. It is a very familiar form of polyester. The full form of PET is Poly-Ethylene Terephthalate.

Q. 11. What is meant by the 4R's principle?

Ans. The 4R's stand for: Reduce, Reuse, Recycle and Recover.

Short Answer Questions

Q. 1. Rohit took with him some nylon ropes, when he was going for rock climbing. Can you tell why he selected nylon ropes instead of ropes made of cotton or jute?

[NCERT Exemplar]

Ans. Nylon ropes are strong, elastic and lighter as compared to cotton and jute ropes.

Q. 2. A lady went to the market to buy a blanket. The shopkeeper showed her blankets made of acrylic fibres as well as made of wool. She preferred to buy an acrylic blanket. Can you guess why? **[NCERT Exemplar]**

Ans. Acrylic blankets are cheap, light in weight, more durable and are available in variety of colours and designs. They can be easily washed at home.

Q. 3. PVC (polyvinyl chloride) is a thermoplastic and is used for making toys, chappals, etc. Bakelite is a thermosetting plastic and is used for making electrical switches, handles of various utensils, etc. Can you write the major difference between these two types of plastics?

[NCERT Exemplar]

Ans. Thermoplastics get deformed easily on heating and can be bent easily on heating. On the other hand, thermosetting plastics when molded once cannot be softened on heating.

Q. 4. Why should one never wear polyster clothes while working in the kitchen?

Ans. Polyster clothes are synthetic fibre and melt on heating. If the clothes catch fire, it can be disastrous, the fabric melts and sticks to the body, so, one should never wear synthetic clothes while working in the kitchen.

Q. 5. Discuss the characteristic properties of plastics.

Ans. a. Plastic is non-reactive.

b. Plastic is light, strong and durable.

c. Plastics are poor conductor.

Long Answer Questions

Q. 1. Write the importance of synthetic polymers in our life. [NCERT Exemplar]

Ans. Synthetic fibres are important in our life because of multiple uses.

Nylon

- Nylon is widely used in women's hosiery and lingerie. It is used in carpeting materials and upholstery fabrics because it is easy to clean.
- The fabric is also used in life vests, umbrellas, sleeping bags and tents.
- As industrial product, nylon fabric is used as seat belts, tire cords, ballistic cloth and tow ropes because of its strength and good elasticity.

Acrylic

It is used to make sweater, blankets, shawls, etc.

Rayon

- Rayon is used to make containers, car upholstery, etc.
- It is used to make carpets, tyre lands.
- It is used to make surgical dressings.

PET

PET is used to make bottles, utensils, films, wires, etc.

Q. 2. Despite being very useful it is advised to restrict the use of plastic. Why is it so? Can you suggest some methods to limit its consumption? [NCERT Exemplar]

Ans. Plastic is a non-biodegradable material and as such it causes land pollution. At the same time burning such materials in the form of garbage causes serious air pollution. Some ways to limit its consumption are:

- Reducing the use of plastics. Whenever possible use paper bags instead of plastic bags.
- Reusing it for some other purpose thereby decreasing its consumption.
- Recycling of plastic. It requires the plastic to be collected, sorted, chopped, melted and remoulded.

Q. 3. Write an activity to show that synthetic fibres are stronger than the cotton fibres. [NCERT Exemplar]

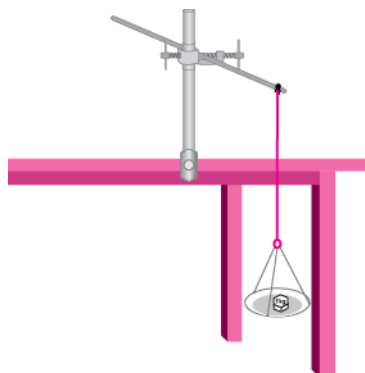
Ans. Take an iron stand with a clamp and a cotton thread of about 65 cm length. Tie the thread to the clamp so that it hangs freely as shown in figure. At the free end suspend a pan so that weight can be placed in it.

Add weight one by one till the thread breaks.

Note down the total weight required to break the thread. This weight indicates the strength of the fibre.

Repeat the same activity with threads of wool, silk and nylon.

You will observe that the weight required to break the threads of wool, silk and nylon is more than cotton. So, synthetic fibres are stronger than cotton.



Q. 4. Distinguish between natural fibres and synthetic fibres.

Ans.

| S.No. | Natural fibres | Synthetic fibres |
|-------|--|--|
| (i) | These fibres are naturally obtained from plants and animals. | These fibres are made by man in factories. |
| (ii) | For example, cotton, silk, etc. | For example, rayon, polyester, etc. |

Hots (Higher Order Thinking Skills)

Q. 1. What nature of plastics is used for making them as good storage containers of chemicals?

Ans. Plastics are non-reactive. They are used to store chemicals because they do not react with them.

Q. 2. What type of clothes should we buy for summer; cotton or clothes made from synthetic materials? Give reason for your answer.

Ans. Cotton clothes are more comfortable during summer, because they have large pores which allow the sweat of body to come out through them, evaporate and this make us feel cool.