

1. Explain why some fibres are called synthetic.

Sol. Since man-made fibres are obtained by the synthesis of petrochemicals, they are called synthetic fibres.

2. Rayon is different from synthetic fibres because

- (a) it has a silk-like appearance. (b) it is obtained from wood pulp.
(c) its fibres can also be woven like those of natural fibres.

Sol. (b) it is obtained from wood pulp.

3. Fill in the blanks with appropriate words.

- (a) Synthetic fibres are also called _____ or _____ fibres.
(b) Synthetic fibres are synthesised from raw material called _____

(c) Like synthetic fibres, plastic is also a _____ .

Sol. (a) Synthetic fibres are also called artificial or man-made fibres.

- (b) Synthetic fibres are synthesized from raw material called polymer.
(c) Like synthetic fibres, plastic is also a petrochemicals.

4. Give examples which indicate that nylon fibres are very strong.

Sol. They are used to make parachutes and ropes for rock climbing.

5. Explain why plastic containers are favoured for storing food.

Sol. The main advantage of using plastic for storing food are

- (a) Plastic has light weight. (b) Good strength.
(c) Easy to handle.

6. Explain the difference between thermoplastic and thermosetting plastics.

Sol.

<i>Thermoplastic</i>	<i>Thermosetting plastics</i>
These are the plastics which get when molded once deformed easily on heating and can be easily bent.	These are the plastics which cannot be softened by heating.
These are used for making toys, switches and combs and various types of containers.	Used for making electrical handles of various utensils.
Eg. polythene, PVC.	Eg. Bakelite, melamine etc.

7. Explain why the following are made of thermosetting plastics.

- (a) Saucepan handles
(b) Electric plugs/switches/plug boards

- Sol.** (a) As bakelite is a bad conductor of heat, therefore, saucepan handles are made up of it.
 (b) Bakelite is also a bad conductor of electricity, so these electrical appliances are made up of it.

8. Categorise the materials of the following products into ‘can be recycled’ and ‘cannot be recycled’.

Telephone instruments, plastic toys, cooker handles, carry bags, ball point pens, plastic bowls, plastic covering on electrical wires, plastic chairs, electrical switches.

Sol.

<i>Can be recycled</i>	<i>Cannot be recycled</i>
Telephone instruments	Cooker handles
Plastic toys	Carry bags
Ball point pens	Plastic covering of electrical wires
Plastic bowls	Plastic chairs

9. Rana wants to buy shirts for summer. Should he buy cotton shirts or shirts made from synthetic material? Advise Rana, giving your reason.

Sol. I will advise Rana to wear cotton clothes. Cotton clothes, which are natural fibres, do not retain heat, instead they reflect out heat. They also provide aeration. So, during summer, we prefer cotton clothes and not the synthetic clothes.

10. Give examples to show that plastics are non-corrosive in nature.

Sol. The plastic are non-corrosive, i.e., they do not react or do not have chemical reaction with the material contained in it. Many containers like bucket, mug, water bottles, and food containers are made up of plastics.

11. Should the handle and bristles of a tooth brush be made of the same material? Explain your answer.

Sol. No, the handle and bristles of a tooth brush should be made of different materials. The handle of tooth brush should be hard and strong. While the bristles should be soft and flexible.

12. ‘Avoid plastics as far as possible’. Comment on this advice.

Sol. Since, plastics takes several years to decompose, so it is not environment friendly and causes environmental pollution. On combustion, plastic do not burn completely and produce lots of carbon monoxide gas along with residual particles into the atmosphere. These gases cause air pollution and green-house effect that may leads to global warming.

13. Match the terms of column A correctly with the phrases given in column B.

<i>Column A</i>	<i>Column B</i>
(i) Polyester	(a) Prepared by using wood pulp
(ii) Teflon	(b) Used for making parachutes and stockings
(iii) Rayon	(c) Used to make non-stick cookwares
(iv) Nylon	(d) Fabrics do not wrinkle easily

Sol.

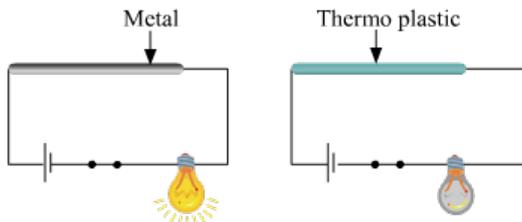
<i>Column A</i>	<i>Column B</i>
(i) Polyester	(d) Fabrics do not wrinkle easily
(ii) Teflon	(c) Used to make non-stick cookwares
(iii) Rayon	(a) Prepared by using wood pulp
(iv) Nylon	(b) Used for making parachutes and stockings

14. 'Manufacturing synthetic fibres is actually helping conservation of forests'. Comment.

Sol. The synthetic fibres are made up of petrochemical. So, the manufacture of synthetic fibres does not depend upon plants and trees. These synthetic fibres cater the need of people up to great extent. Thus the forests are not destroyed to manufacture clothes and other items. So, indirectly, we can come to a conclusion that manufacturing synthetic fibres is actually helping conservation of forests.

15. Describe an activity to show that thermoplastic is a poor conductor of electricity.

Sol. If we make an experiment set up using copper wire, a thermoplastic object, a bulb and a cell, as shown in the figure below, the bulb does not glow. However, if the thermoplastic object is removed from the circuit, the bulb glows up.



This shows that thermoplastic objects are bad conductor of electricity.