

Synthetic Fibres and Plastics

- Fibres that are obtained by chemical processing of petrochemicals are called synthetic fibres. Like natural fibres, these fibres can also be woven into fabrics.
- Synthetic fibres and plastics are made of very large units called polymers.
- Polymers are made up of many smaller units called monomers.
- Synthetic fibres have various uses in our day to day life. They are used in household articles like ropes, buckets, furniture, containers, etc. Apart from items of household uses, they are also used in aircrafts, ships, spacecraft's, healthcare, etc.
- Rayon, nylon, polyester and acrylic are some of the main types of synthetic fibres.
- The properties of rayon are similar to that of silk. Due to this rayon is also called as artificial silk.
- The different types of fibres differ from one another in their strength, water absorbing capacity, nature of burning, cost, durability, etc.
- The material which gets decomposed through natural processes, such as action by bacteria, is called biodegradable.
- The material which is not easily decomposed by natural processes is termed as non-biodegradable.
- Plastic becomes one of the most important things of our life. We can see lots of things made up of plastics at home, or outside, everywhere.
- Plastics can be classified mainly into two types –

(i) Thermoplastics and
(ii) Thermosetting plastics.
- Thermoplastics are the plastics that do not undergo chemical change in their composition when heated and can be molded again and again. Polyethylene, polypropylene, polystyrene and polyvinyl chloride are some of the examples of thermoplastics.
- Thermosetting plastics are the plastics that can melt and take shape once; after they have solidified, they stay solid. They undergo chemical change in their composition when heated and cannot be molded again and again. Polystyrene, polyisoprene, rubber are examples of thermosetting polymers.
- Plastics release poisonous gases on burning. On dumping in the ground they may take years to get decomposed. They are non-biodegradable in nature.
- We need to use synthetic fibres and plastics in such a manner that we can enjoy their good qualities and at the same time minimise their environmental hazards.
- Be a responsible citizen and always remember the 4 R principle - Reduce, Reuse, Recycle and Recover to minimise the pollution which occurs due to the non-biodegradable materials like plastics.