

# Physico-chemistry (Std - VIII)

## Synthetic fibres and Plastics

Natural fibres:- The fibres which are obtained from the natural sources. eg- cotton, silk, wool etc

Synthetic fibres:- The fibres which are obtained ~~from~~ by human beings by using certain chemicals are known as synthetic fibres. eg. Rayon, Polyester, Nylon, etc.

\* A synthetic fibre is a chain of small units joined together. Each small unit is actually a chemical substance.

Polymer :- Polymer is a combination of many small units to form a large single unit. So polymer is made up of many repeating units.

\* Cotton is a natural polymer made up of cellulose. Cellulose is made up of large number of glucose units.

Answer the following questions:-

- (1) Differentiate Natural fibre and synthetic fibre.
- (2) What is polymer?
- (3) Define cellulose.

## Types of synthetic fibres:

(i) Rayon :- Rayon is a synthetic fibre obtained by the chemical treatment of wood pulp. This fibre looks like silk, hence called artificial silk.

It is a man made fibre which is cheaper than silk and can be woven like silk fibre. It is mixed with cotton to make bed sheets and mixed with wool to make carpets.

Nylon :- Nylon is the first fully synthetic fibre obtained in 1931. It is obtained from coal, air and water.

### Properties of Nylon:

1. It is strong, elastic and light.
2. It is lustrous and easy to wash.

### Uses of Nylon:

1. It is used to make socks, ropes, tents, toothbrushes, car seat belts etc.
2. It is used to make parachutes and ropes for rock climbing because of its strength.

Polystere :- It is a type of synthetic fibre made up of many repeating units of a chemical called ester. (Ester is the chemical having the smell of fruits)

\* Polycot :- This fabric is prepared by the combination of polyester and cotton.

Polywool :- This fabric is prepared by the combination of polyester and wool.

Terrycot :- This fabric is prepared by the combination of terylene and cotton.

Terylene :- It is a synthetic fibre or polyester obtained from petroleum origin.

Acrylic :- It is a synthetic fibre which appears very similar to wool, but cheaper than wool. This is available in a variety of colours. This fibre is affordable and durable.

Petrochemicals :- All the synthetic fibres are obtained from raw materials of petroleum origin. These raw materials are called Petrochemicals.

