C-8 SCIENCE WK-4

CHAPTER- 3

SYNTHETIC FIBRES AND PLASTICS

SYNTHETIC FIBRES

RAYON (ARTIFICIAL SILK)

Rayon is most widely used as semisynthetic fibre.It is derived from cellulose and are available in three different varieties

VISCOSE,CUPRAMMONIUM AND ACETATE RAYONS.

Viscose comes from pine trees.Further from viscose synthetic fibre is obtained called RAYON.

Characteristics of Rayon

1) Similar to silk.
2) Clothes are much cheaper.
   Uses of Rayon
   1) Textile industry.
   2) Medical industry.
   3) Rayon is mixed with wool to make carpets.
   4) It is used with cotton to make blankets etc.
      Properties of Rayon
      1) It is very popular and versatile fibre.
      2) They dry up quickly.
      3) They are durable.

Polyesters

The first synthetic fibre obtained was of this class.Polymers obtained by the reaction between certain sets of organic compounds form a melt which can be spun into filaments.The special property of these filaments is that they can be stretched several times their original length.Terylene and Dacron are examples.Terylene is used to make clothes.Polyesters are used to make bottles,insulating tapes etc.

Nylons (Polyamides)

Nylon was first made in 1935.It was intended to be a substitute for silk and was used in place of silk in parachutes in1941, when USA entered World War II.

Uses of Nylon

1) It is used for making ropes.
2) Easy to maintain.

Acrylics

Acrylic fibres are a substitute for natural wool.These polymers decompose without melting . They are dissolved in a suitable solvent and the solution is forced through spinnerets to obtain filaments.The filaments can be cut into staples and the staples spun into yarns.

Properties of Acrylic

1) Acrylic fibres are crimpy (wavy) and not straight like polyester or nylon fibres.
2) They appear to be bulky and compete with wool.
3) They are not easily acted upon by moisture,chemicals or bacteria.

<mark>Uses of Acrylic</mark>

1) They are used to make knitwear,upholstery and artificial furs.
2) They are cheaper than natural fibres.

<mark>Blends used for clothing</mark>

E.g :Terylene is blended with cotton,silk and wool to yield terycot ,terysilk and terywool. Clothes made of pure synthetic fibres are not comfortable to wear,so they are blended with natural fibres.These blends are called mixed blends.