**Polymeric Biomaterials:**

**1. Introduction:**

Synthetic polymeric materials have been widely used in medical disposable supplies, prosthetic materials, dental materials, implants, dressings, extracorporeal devices, encapsulants, polymeric drug delivery systems, tissue engineered products, and orthodoses like those of metal and ceramics substituents. The main advantages of the polymeric biomaterials compared to metal or ceramic materials are ease of manufacturability to produce various shapes (latex, film, sheet, fibers, etc.), ease of secondary processability, reasonable cost, and availability with desired mechanical and physical properties. The required properties of polymeric biomaterials are similar to other biomaterials, that is, biocompatibility, sterilizability, adequate mechanical and physical properties, and manufacturability as given in Table 3.1.



**2. Polymers Used as Biomaterials:**

Although hundreds of polymers are easily synthesized and could be used as biomaterials only 10 to 20 polymers are mainly used in medical device fabrications from disposable to long-term implants as given in Table 3.2.

