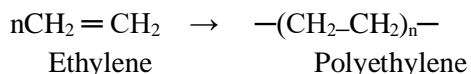




POLYMERS AND COMPOSITES

INTRODUCTION:

- The word polymer is derived from Greek words “**poly**” means many and “**mers**” units or parts.
- Polymers are materials of very high molecular weight that have many applications in the modern society.
- Polymers are obtained through the combination of small molecules called **monomers**. For example, polyethylene is formed from the monomer ethylene.
- In order to form polymers, monomers should either have reactive functional groups or a double (or triple) bond whose reaction provides the necessary linkages between repeat units.
- The total number of bonding sites or functional groups present in a monomer molecule is called the functionality of the monomer
- The number of repeating units present in a polymer is called degree of polymerisation



Here n is the degree of polymerization. When the value of n is very large, that is, in the range of hundreds or thousands, the polymers are called **High Polymers**

Empathy:

The advantage of polymers /plastics is that they are light weight, water resistant, durable, strong, economical and resistant to corrosion chemicals.

But most of the plastics are Non biodegradable (do not degrade quickly) and pose a danger during recycling.

The other disadvantages of plastics are that they pollute the environment, pose a danger to wild life.

The biggest of them is that burning of plastics releases toxic fumes into the environment, in turn taking the air pollution to much higher level