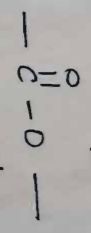
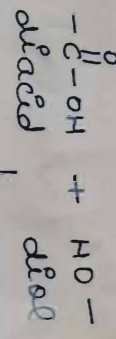


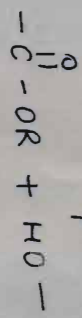
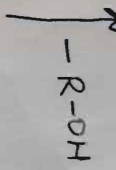
Condensation Polymers

Polyesters



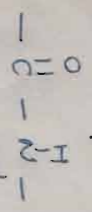
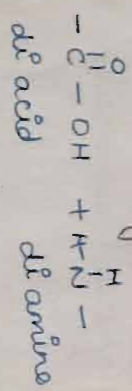
ester linkage

OR



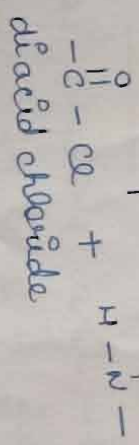
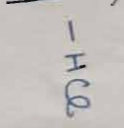
diester

Polyamides



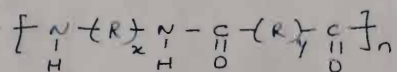
amide linkage

OR



## Polyamides

Polyamides are prepared by melt polycondensation between dicarboxylic acids and diamines having general structure as:



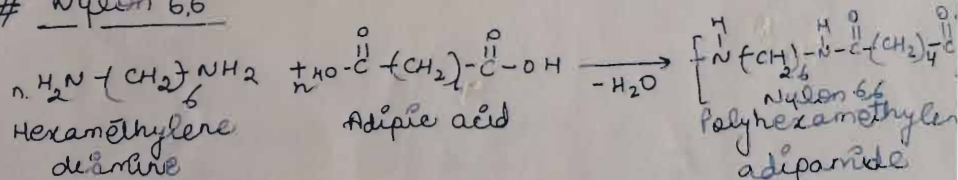
where R :  $-\text{CH}_2$  for aliphatic polyamides  
OR  $\text{C}_6\text{H}_4$  for aromatic polyamides

### Aliphatic Polyamides

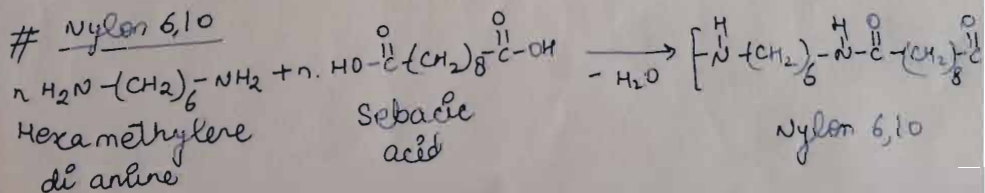
These are generally known as "Nylons" and usually indicated by numbering system. In code of two numbers first indicates number of C atoms in diamine and second indicates number of C atoms in diacid molecule.

Polymers from amino acids or lactams are designated by a code of single number indicating no. of C atoms in amino acid OR lactam.

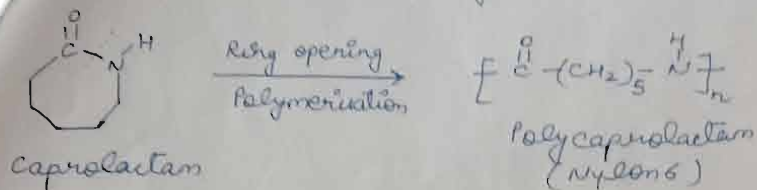
#### # Nylon 6,6



#### # Nylon 6,10



Nylon 6 : by self polycondensation

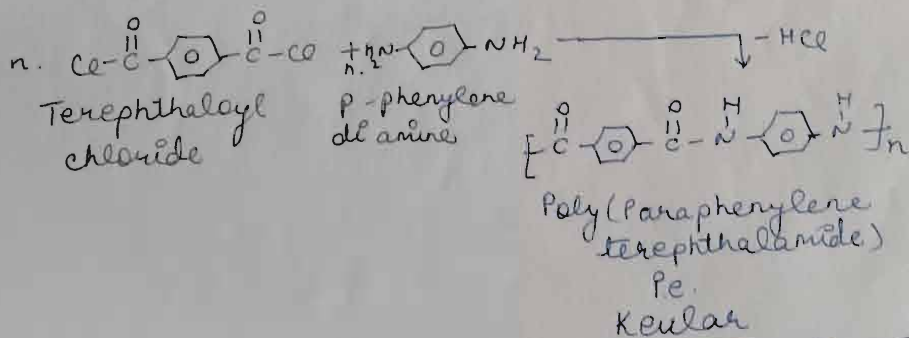
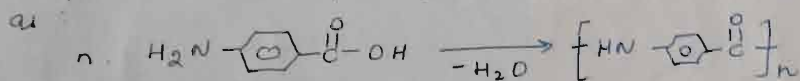


# Nylon 11 :

# Nylon 12 :

Aromatic Polyamides (Aramid)

Prepared either by self-condensation or polycondensation



Polycondens<sup>n</sup> is carried out by melt, solution or interfacial techniques.