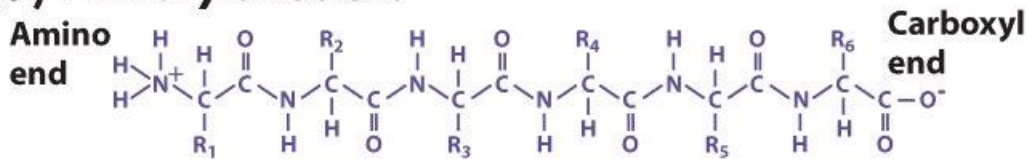


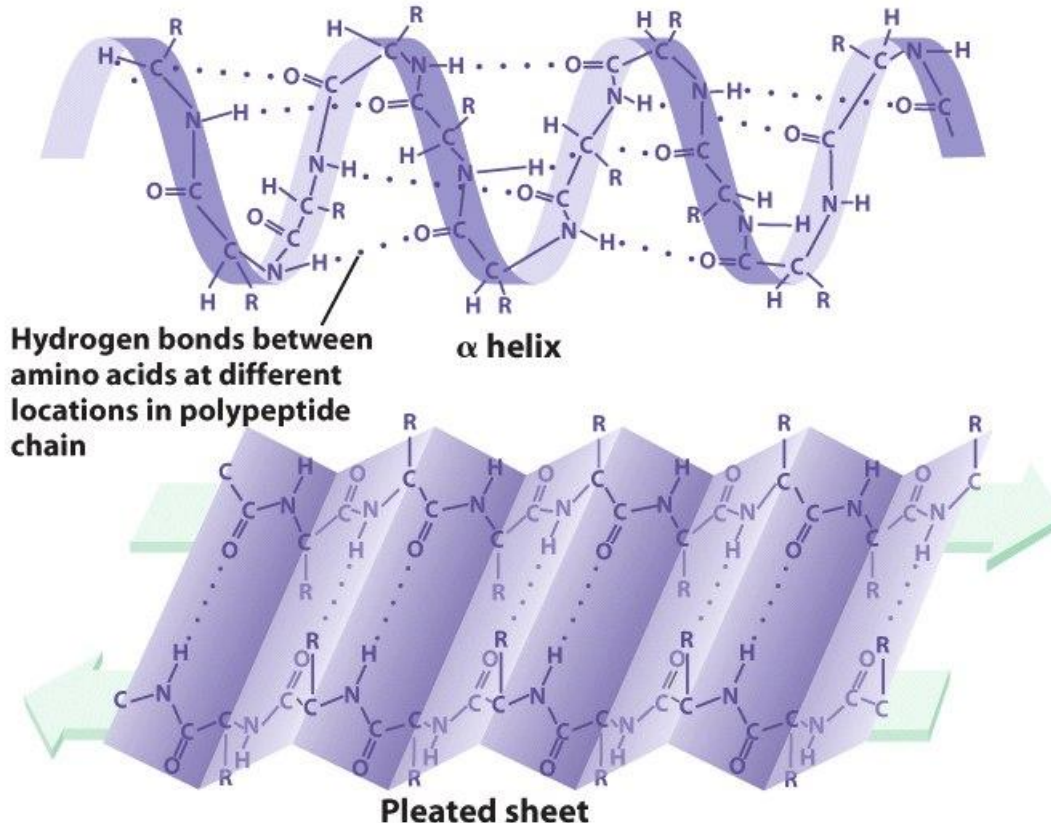
Levels of Protein Structure

(a) Primary structure



It is the sequence of a chain of amino acids joined by peptide (amide) bonds.

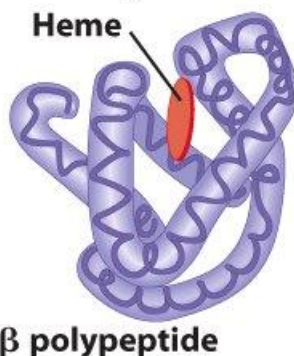
(b) Secondary structure



Refers to the formation of a regular pattern of twists or kinks of the polypeptide chain. The regularity is due to hydrogen bonds formed between the atoms of the amino acid backbone of the polypeptide chain.

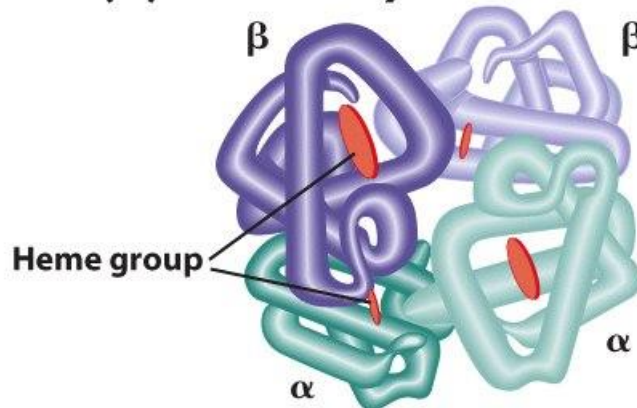
The two most common types of secondary structure are the ones shown. (alpha helix and beta pleated sheet.)

(c) Tertiary structure



It is the three dimensional structure formed by the bending and twisting of the polypeptide chain. This structure is stabilized by the interactions among the side chains of the amino acids forming the polypeptide.

(d) Quaternary structure



This level of structure refers to the fact that some proteins contain more than one polypeptide chain, adding an additional level of structural organization: the association of the polypeptide chains or 'subunits'. The subunits can be the same polypeptide chain or different ones.