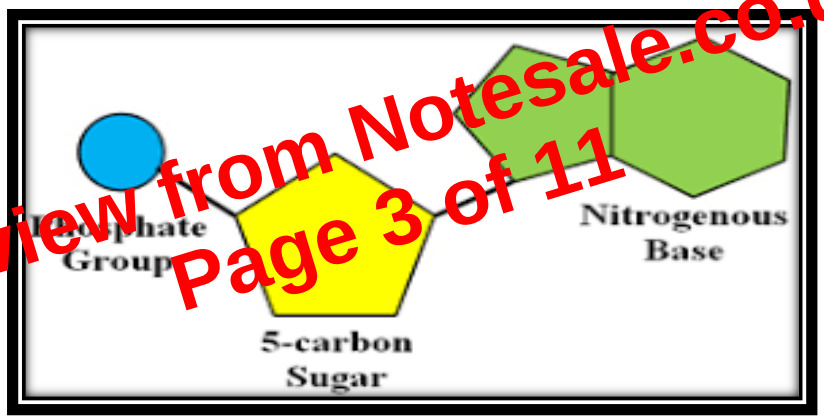
The Discovery of the Double Helix:

The discovery of the double helix, the twisted-ladder structure of deoxyribonucleic acid (DNA) is done by James Watson and Francis Crick in 1953. They marked a milestone in the history of science and gave rise to modern molecular biology, which is largely concerned with understanding how genes control the chemical processes within cells.

DNA has three main components:

1. Deoxyribose (a pentose sugar)
2. Nitrogenous Base
3. Phosphate



Nucleotides:

Nucleotide is a chemical compound formed by glycoxidation of a nitrogen base with a pentose sugar and its esterfication is by one to three phosphoric acids.

Phosphoric acids(H3PO4): It is a weak acidic compound consisting of a central phosphorous to which are attached one oxygen and three hydroxyls. Hydroxyls groups provide reactivity enabling phosphoric acid to combine with the sugars and help in condensation reactions. Oxygen has a tendency to acquire neagtive charge by gaining electrons while phosphorous tends to have positive charge through losing electrons. Free hydroxyl groups pass hydrogen to the medium with their oxygen atom becoming negatively charged. Bond between two phosphoric acid redicals is established againt electrostatic repulsion. Therefore, it has more energy than a covalent bond.