

## **High Yield Hints – Enzymes in DNA**

### **Restriction endonuclease**

These are enzymes that recognize specific nucleotide sequence in DNA and cleave the DNA double helix at or near these specific restriction site, called Target site. So due to this behaviour, this enzyme is specially used in Genetic engineering.

### **Gyrase**

It is a type II topoisomerase of E.coli with the ability to introduce negative super coils into DNA.

### **DNA polymerase I**

The major function of DNA polymerase is DNA repair and is responsible for the excision of RNA primers used in the initiation of DNA synthesis, but DNA polymerase I cannot initiate the synthesis of DNA chains de novo. DNA pol.I catalyses the formation of a phosphodiester bridge between the 3'-OH at the end of the primer chain and the 5'- phosphate of incoming deoxyribonucleotide. The direction of synthesis is thus always 5' – 3'.