Chapter 9 – DNA Based Information Technology (and part of Chapter 8 – Nucleotides and Nucleic Acids)

8.3 Nucleic Acids Chemistry

The following sub-sections are important:

* The Chemical Synthesis of DNA has Been Automated
* Gene Sequences Can be Amplified with the Polymerase Chain Reaction
* DNA Sequencing Technologies are Advancing Rapidly

9.1 Studying Genes and Their Products

The following sub-sections are important:

* The Introduction
* Restriction Endonucleases and DNA Ligases Yield Recombinant DNA
* Cloning Vectors Allow Amplification of Inserted DNA Segments
* Cloned Genes Can be Expressed in Amplify Protein Production
* The Polymerase Chain Reaction Can be Adapted for Convenient Cloning

9.2 Using DNA-Based Methods to Understand Protein Function

The following sub-sections are important:

* DNA Libraries are Specialized Catalogs of Genetic Information
* Fusion Proteins and Immunofluorescence Can Reveal the Location of Protein in Cells
* DNA Microarrays Reveal RNA Expression Patterns and Other Information
* Inactivating or Altering a Gene with CRISPR Can Revel Gene Function