GENETICS: UNIT 1 STUDY GUIDE

Chapter 9

DNA Synthesis

* DNA structure (double helix, nucleotide structure, antiparallel)
* Helicase, topoisomerase, single-stranded binding proteins, replication fork
* Primase, RNA primers, DNA polymerase III, leading strand vs. lagging strand, Okazaki fragments
* DNA polymerase I, ligase, directionality of replication, semi-conservative replication

Chapter 10

Protein Synthesis

* Transcription: Initiation (promoter, transcription factors, RNA polymerase)
* Transcription: Elongation (directionality, RNA-DNA base pairing rules)
* Transcription: Termination (structure of pre-mRNA, mRNA capping, splicing, destination of final mRNA)
* Translation: Initiation (start codon, ribosomal subunits, initiator tRNA)
* Translation: Elongation (E/P/A sites, role of tRNA, production of polypeptide, how to read codons)
* Translation: Termination (release factor, stop codon, final product)

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