AICE Biology Guided Reading: Genetic Control of Protein Structure and Function (J&F, Chapter 6)

*Answer each of the following questions as you read the assigned chapter(s) in your text. The point value for each question is found in ( ) at the end of the question. This assignment is worth 30 points total and is due Monday, October 2.*

1. As you read the chapter, answer all SAQ’s separate from the following questions. (5)
2. Define polynucleotides and describe the differences between DNA and RNA, including differences in base pairs used in each nucleic acid and sugars. (Drawing diagrams may help!) (2)
3. What holds polynucleotides together and how strong are the various bonds? (1)
4. What is meant by the term “semi-conservative replication” and how do we know this is how DNA is replicated? Explain. (2)
5. Describe the three main steps in DNA replication. (3)
6. Examine box 6.1 on page 117-118. What is the evidence for semi-conservative replication? Describe. (2)
7. Define “the triplet code,” gene, and genome. (1)
8. What is the difference between mRNA and tRNA (consider what they are synthesized from and what their purposes are)? (2)
9. Study Figure 6.13, part 1 (page 120). Do your best to describe the two main steps in protein synthesis transcription. (4)
10. Study Figure 6.13, part 2 (page 121). Do your best to describe the four main steps in protein synthesis translation. (6)
11. Answer end of chapter question #10 on page 125. (2)