Biology 341
Introduction to Genetics
Quiz 6
3/4 November 2004

Name (print clearly) _____

Grade (points correct) _____

1. (3 points) We may use circles and letters to represent the components of the DNA double helix; circled S and P may stand for the sugar and phosphate groups and circled A, T, G, and C for the four nitrogenous bases. These are the symbols:

(S) (P) (T) (A) (G) (C)

Construct a two dimensional model of the DNA double helix which shows the covalent bonds, the hydrogen bonds and correct base pairing. Also show the 5' and 3' ends of each strand. The model should have four base pairs with a sequence of bases on one strand: G G C C.

2. (2 points) Write a few sentences on how Chargaff's work on the percentage of the four bases in DNA influenced Watson and Crick in determining their model of the three dimensional structure of DNA

3. (1 point) Give the conclusion derived from the Hershey-Chase experiments dealing with the differential labeling of the protein coat and core of bacteriophage.

4. (2 points) What is the difference between constitutive and facultative heterochromatin?

5. (2 points) Give a brief description for the solenoid (30nm) structure of the eukaryotic chromosome.