1. The tools for growth, transport, and structure are in the form of proteins. Proteins consist of chains of amino acids strung together in unlimited combinations, which allows proteins to fold up into virtually unlimited shapes to fit a particular job. The instructions for assembling the amino acids in the correct order is provided by _____.

(A) DNA
(B) ribosomes
(C) transfer RNA
(D) DNA polymerase

2. Which of the following is not a protein?

(A) catalase
(B) collagen
(C) hemoglobin
(D) cellulose

3. Molecules involved as second messenger include all but the following:

(A) DNA
(B) G proteins
(C) adenyl cyclase
(D) cyclic AMP

4. One major difference between a prokaryote and a eukaryote is _____.

(A) prokaryotes have mitochondria; eukaryotes do not have mitochondria
(B) prokaryotes do not have ribosomes; eukaryotes do have ribosomes
(C) prokaryotes do not have a nucleus; eukaryotes do have a nucleus
(D) prokaryotes do not have messenger RNA; eukaryotes do have messenger RNA

5. DNA is made of chains of _____.

(A) nucleotides
(B) deoxyamino acids
(C) ribonucleic acids
(D) chromosomes

6. The purpose of codons is all of the following, except _____.

(A) to indicate which transfer RNA needs to attach to the ribosome
(B) to indicate where RNA polymerase should begin reading the DNA
(C) to indicate when the DNA should be read by RNA polymerase
(D) to indicate the amino acid to be inserted into the growing polypeptide

7. Which of the following is not involved in reading the DNA to make a protein?

(A) TATA box
(B) DNA polymerase
(C) promoter region
(D) helicase

8. Messenger RNA _____.

(A) reads the DNA code to determine the order of RNA codons
(B) snags amino acids in the cytoplasm and brings them to ribosomes for assembly into a protein
(C) attaches to ribosomal RNA and waits for amino acids to be brought to it
(D) attaches to transfer RNA at the ribosome, at which point amino acids attach to transfer RNA and bond to other amino acids in the proper order

9. Once a polypeptide is assembled, it must fold up into the proper shape. To fold up into the proper shape, the protein _____.

(A) simply detaches from the ribosome
(B) is maneuvered into its proper shape by smaller "induction" proteins attached to ribosomes
(C) is transferred to the Golgi apparatus
(D) is transferred to the rough endoplasmic reticulum

10. In plants and animals (but not bacteria), in order for RNA polymerase to read the DNA, the DNA must be signaled that a particular protein needs to be made. The signaling molecule attaches to a region called the enhancer region, which _____.

(A) causes RNA polymerase to attach to the enhancer region and begin reading the DNA
(B) causes the DNA to bend in order to bring the enhancer region next to the promoter region
(C) opens pores in the nuclear membrane for messenger RNA to pass through
(D) triggers amino acids to attach to transfer-RNA for protein synthesis in the ribosomes

11. Each gene is made of exons and introns. In eukaryotes, when messenger RNA is made from the DNA, some of the exons and introns are removed. Depending on which exons and introns are removed _____.

(A) the gene can be altered
(B) the same gene can result in different messenger RNA's
(C) different genes can result in the same messenger RNA
(D) RNA polymerase may fail to read the DNA