



Name: _____

Per: _____

**DNA Replication, Protein Synthesis Test Review
Chapters 12 & 13**

1. List the three roles of DNA

a. _____ c. _____

b. _____

2. Making a copy of DNA is called _____.

3. The enzyme _____ is responsible for adding nitrogen bases and proofreading new DNA strands during replication.

4. Where in the cell does the process mentioned in **Question 2** occur? _____

5. ADENINE pairs with _____. _____ pairs with guanine.

6. Give the complementary DNA strand.

5' A T T G C C A G C 3'

7. Name the nucleic acid that is double stranded and contains deoxyribose sugar. _____

8. Name the ENZYME responsible for unzipping the DNA strands. _____

9. Name the three parts of a nucleotide.

1. _____

2. _____

3. _____

10. Draw and label a nucleotide.

11. Describe Chargaff's rule of base pairing.

12. Name the type of bond that connects the nitrogen bases of the two DNA strands. Why is this type of bond best to hold the strands together?

13. Making a copy of DNA is called _____.

14. Which nitrogen base isn't used during this process? (Process mentioned in #13) _____

15. A codon is a group of three nucleotides in mRNA that specifies (determines) an specific (2 words) _____
_____ to be brought to the ribosome.

16. The enzyme _____ polymerase is responsible for adding nitrogen bases and proofreading new DNA strands during replication, and _____ polymerase is used during transcription.

17. This process of making copying an RNA message from the DNA code is called _____.

18. Where in the cell does the process mentioned in **Question 17** occur? _____

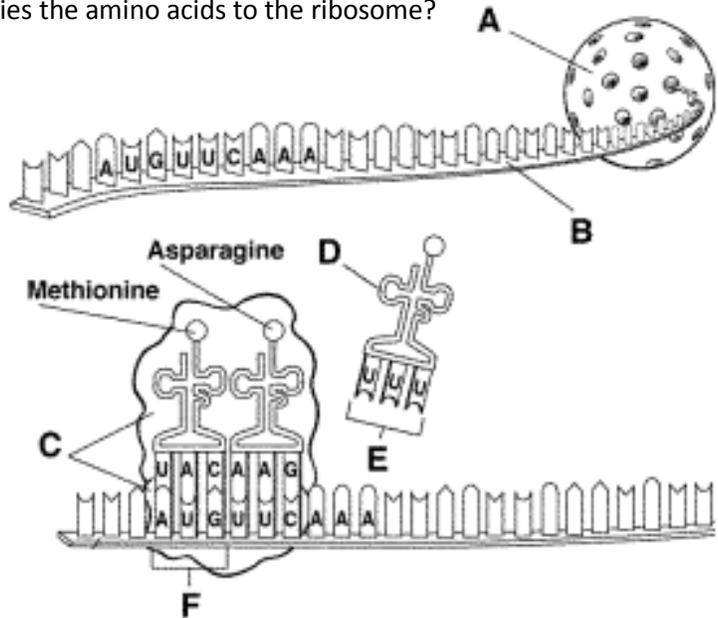
19. Use an amino acid chart to tell the amino acid sequence coded for by the following message:

U C A A A U U C

20. Which kind of RNA has an ANTICODON region and carries the amino acids to the ribosome?

21. Label A-F in the diagram to the right.

- a.
- b.
- c.
- d.
- e.
- f.



22. What process are letters A and B involved in?

23. What process are letters C-F involved in?

24. Tell three ways DNA is different from RNA.

- g. _____
- h. _____
- i. _____

25. Using an RNA message to make a protein is called _____.

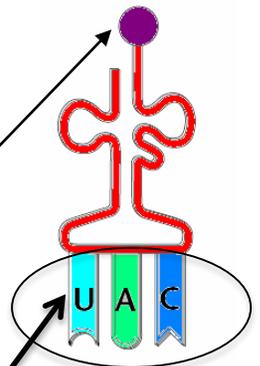
26. Give the complementary mRNA strand. A T T G C C A G C _____

27. What kind of RNA is pictured to the right? _____

28. Name the molecule attached here. _____

29. The three nucleotides attached to this type of RNA is called an _____

30. Name the ENZYME involved in TRANSCRIPTION is _____



48. Restaurant worker that gets your food _____
 49. The restaurant's drive-thru window _____
 50. The food in the kitchen that you ordered _____

51. Your food order _____

52. The bag of food (and your drinks) when handed out the window to you _____

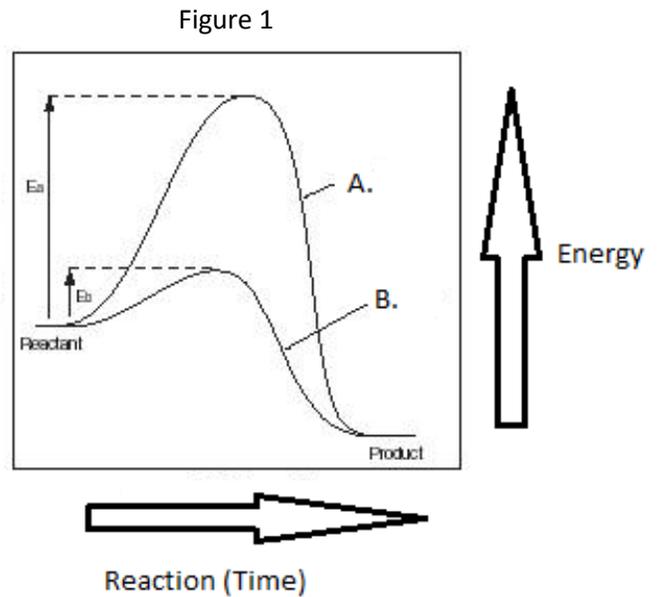
Biochemistry Review

53. _____ speed up chemical reactions, and lower _____.

54. Explain why enzymes are important to living things.

55. Using Figure 1 to the right, identify the following: reaction with enzyme, reaction without enzyme, activation energy.

56. What is activation energy?



57. Complete the following table:

Polymer	Elements	Monomers	Functions
Proteins			
Lipids			
Carbohydrates			
Nucleic Acids			