

## Transcription and Translation Quiz- Answer Key

**Multiple Choice (2pt each):** For each question below, select the best answer by filling in the corresponding letter and filling in the bubble on your answer sheet. You may use a scrap piece of paper to solve these problems. Also, make sure you check or mark if you are sure or unsure about the answer.

1. Which mRNA strand will be complementary to the following DNA strand 5'- ATCG-3'
- a. 5'- UAGC-3'
  - b. 3'- UAGC-5'**
  - c. 3'- UAGG-5'
  - d. 5'- ATCC-3'
- Sure: \_\_\_\_\_      Unsure: \_\_\_\_\_

2. RNA is created in the following direction
- a. in the 3' to 3' direction
  - b. in the 3' to 5' direction
  - c. in the 5' to 5' direction
  - d. in the 5' to 3' direction**

Sure: \_\_\_\_\_      Unsure: \_\_\_\_\_

3. The codon is found on which molecule
- a. tRNA
  - b. mRNA**
  - c. DNA
  - d. rRNA

Sure: \_\_\_\_\_      Unsure: \_\_\_\_\_

4. All of the following are either used or made in transcription except
- a. RNA Polymerase
  - b. DNA
  - c. rRNA
  - d. Proteins**

Sure: \_\_\_\_\_      Unsure: \_\_\_\_\_

5. In DNA Transcription, Adenine will pair with what base in the DNA molecule

- a. Cytosine
- b. Thymine
- c. Uracil**
- d. Guanine

Sure: \_\_\_\_\_ Unsure: \_\_\_\_\_

6. Which types of bonds are created by translation?

- a. Peptide bond**
- b. Hydrogen bond
- c. Covalent bond
- d. Ionic bond

Sure: \_\_\_\_\_ Unsure: \_\_\_\_\_

7. In DNA Transcription, Guanine will pair with what base in the DNA molecule

- a. Cytosine**
- b. Thymine
- c. Uracil
- d. Adenine

Sure: \_\_\_\_\_ Unsure: \_\_\_\_\_

8. All of the following of post-transcriptional modification except

- a. introns are removed from the mRNA
- b. a 5' cap is added to the mRNA.
- c. exons are removed from mRNA.**
- d. adding a poly A tail to the mRNA

Sure: \_\_\_\_\_ Unsure: \_\_\_\_\_

**Short Answer (2pt each): Please answer the following question by SHOWING YOUR WORK.**

**Use your work to find the amino acid sequence from a given DNA sequence. Also, make sure you check or mark if you are sure or unsure about the answer.**

9. Using the top strand of the DNA sequence below, write out the resulting mRNA and Amino Acid sequence

3'- TTACGGAGTGCCCCGCGTCACTGA- 5'

5'- AATGCCTCACGGGGCGCAGTGACT- 3'

mRNA: **5'-A AUG CCU CAC GGG GCG CAG UGA CU- 3'**

Amino Acid Sequence: **Met, Pro, His, Gly Ala, Glu, Stop**

Sure: \_\_\_\_\_ Unsure: \_\_\_\_\_

