**Mid-Term Assignment (Spring-2020) (BS-MLT 4th)**

**Course Title: Molecular Biology Instructor: Mr. Fazli Zahir Mian**

**Time: 48 Hours**

**Q1: Fill in the Blanks.**

1. \_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_ discovered the double helical structure of the DNA molecule.
2. Watson and Crick were awarded Nobel Prize in \_\_\_\_\_\_\_\_\_\_\_\_\_.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_store, transmit, and help express hereditary information.
4. The amino acid sequence of a polypeptide is programmed by a unit of inheritance called a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Hundreds of Y-shaped regions of replicating DNA molecules where new strands are growing called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_are enzyme which relieves stress on the DNA molecule by allowing free rotation around a single strand.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a dictionary that corresponds with sequence of nucleotides and sequence of amino acids.
8. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**is the process of covalently attaching an amino acid to the tRNA.
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are proteins which attach and help keep the separated strands apart.

**Q2: Write short notes on the following**

1. Common tools of molecular biology
2. Nucleic acids
3. Chargaff’s rule
4. Wobble hypothesis
5. Names of main steps in Translation and Transcription

**Q3: Explain the process of DNA Replication.**

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Good luck.