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

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

**Time: 6 Hours**

**Q1: Fill in the Blanks.**

1. The three main steps of PCR are \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The word “vaccine” originates from the Latin word \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the oldest microbes exploited by humans for their benefit.
4. Restriction endonucleases are also called as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_ is a diagram or map of DNA molecule of an organism that shows specific sites of cleavage restriction sites.
6. A forensic technique used to identify individuals based on the variations in their DNAsequences is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. Restriction modification system is mainly composed of \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. Vaccines and its types
2. Biotechnology and its scope

**Q3: Explain in detail the Restriction modification system.**

**Q4: What are Different types of retraction enzymes? Recombinant DNA, Recombinant DNA technology and its application**

**Q5: As students of MLT how will you use Restriction endonuclease in lab?**

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Good luck.