

4.

4.1. Describe the basic steps in Polymerase Chain Reaction. (40 Marks)

4.2. State the importance of following components of a PCR master mix.

4.2.1. Mg^{2+} (05 Marks)

4.2.2. Taq Polymerase (05 Marks)

4.2.3. Buffer (05 Marks)

4.2.4. dNTPs (05 Marks)

4.3. Briefly describe the principle behind using DNA oligonucleotide fluorescent probes (Taq Man Probes) in qPCR. (40 Marks)