



UNIVERSITY OF JAFFNA, SRI LANKA
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES
FOURTH YEAR SECOND SEMESTER EXAMINATION- AUGUST 2017

MLSBM 4203 BIOTECHNOLOGY AND MOLECULARBIOLOGY II

Date: 17.08.2017

Time: 1 Hour

ANSWER ALL FOUR QUESTIONS.

1.
 - 1.1. Outline the steps involved in Polymerase Chain Reaction. **(50 Marks)**
 - 1.2. Compare conventional PCR with that of Real Time PCR. **(50 Marks)**

2. Write notes on
 - 2.1. Trypsinisation **(50 Marks)**
 - 2.2. Gene therapy **(50 Marks)**

3. Write notes on
 - 3.1. Single gene disorders (with examples). **(35 Marks)**
 - 3.2. Applications of molecular genetic tests in the detection of different types of abnormalities / diseases (with example(s) for each type). **(65 Marks)**

4.
 - 4.1. Outline the structural features of a metacentric chromosome. **(15 Marks)**
 - 4.2.
 - 4.2.1. Write notes on chromosomal translocation. **(20 Marks)**
 - 4.2.2. Describe two abnormalities / diseases results from 4.2.1. **(30 Marks)**
 - 4.2.3. Write one common method that can be used to detect the abnormalities / diseases mentioned in 4.2.2. **(10 Marks)**
 - 4.2.4. List five numerical chromosomal abnormalities (with their karyotype) that can be detected by the method mentioned in 4.2.3. **(25 Marks)**