



**UNIVERSITY OF JAFFNA, SRI LANKA**  
**BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES**  
**FOURTH YEAR SECOND SEMESTER EXAMINATION- JULY 2015**

**MLSBM 4203 Biotechnology and Molecular Biology II**

**Date: 05.08.2015**

**Time: 1 Hour**

**ANSWER ALL FOUR QUESTIONS.**

1.
  - 1.1 Explain the molecular basis of using dideoxy nucleotides in DNA sequencing method **(20 Marks)**
  - 1.2 Outline the steps involved in the dideoxy DNA sequencing method **(60 Marks)**
  - 1.3 Write short notes on gene therapy **(20 Marks)**
  
2.
  - 2.1 Define primary and secondary cell lines **(20 Marks)**
  - 2.2 Describe the steps involved in the preparation of cell culture tubes from primary cell lines **(50 Marks)**
  - 2.3 What are the precautions that should be taken while handling cell cultures **(30 Marks)**
  
3.
  - 3.1 Outline the principle of Polymerase chain reaction (PCR) technique **(25 Marks)**
  - 3.2 Briefly describe the steps involved in the PCR technique **(50 Marks)**
  - 3.3 Write notes on single cell disorders **(25 Marks)**
  
4.
  - 4.1 Write notes on classification of chromosomes. **(35 Marks)**
  - 4.2 List two methods used for the chromosomal analysis. **(10 Marks)**
  - 4.3 Describe the procedures involved in **one** of the methods mentioned in 4.2. **(55 Marks)**