

UNIVERSITY OF JAFFNA, SRI LANKA  
BACHELOR OF SCIENCE IN MEDICAL LABORATORY SCIENCES  
FOURTH YEAR SECOND SEMESTER EXAMINATION- AUGUST 2016



Logy.  
MLSBM 4203 BIOTECHNOLOGY AND MOLECULAR BIOTECHNOLOGY II

Date: 25.08. 2016

Time: 1 Hour

**ANSWER ALL FOUR QUESTIONS.**

1.
  - 1.1 Write the principle of Real time PCR. (20 Marks)
  - 1.2 Name the phases in Real time PCR and describe briefly. (50 Marks)
  - 1.3 List the advantages of Real time PCR. (30 Marks)
2.
  - 2.1 Briefly describe the steps in trypsinisation and seeding of tubes in cell culture technique. (50 Marks)
  - 2.2 Write on the applications of cell cultures. (50 Marks)
3. A male new born showed dysmorphic features suggestive of Down syndrome. A blood sample taken from him was sent for karyotyping. At the genetic laboratory “G banding” chromosomal analysis was performed and the newborn was found to have trisomy 21.
  - 3.1 Write the karyotype of the above newborn. (10 Marks)
  - 3.2 Describe the cause for trisomy 21. (30 Marks)
  - 3.3 Describe the “G banding” chromosomal analysis. (40 Marks)
  - 3.4 Write the other genetic variations present in Down syndrome. (20 Marks)
4. Write notes on
  - 4.1 Genes associated with cancer (30 Marks)
  - 4.2 Multifactorial inheritance (30 Marks)
  - 4.3 Mutation (40 Marks)