The Open University of Sri Lanka

Faculty of Health Sciences

Bachelor of Medical Laboratory Sciences (B.MLS)

MLU4245 – Cytogenetics and Molecular Genetics

Semester 02- Academic year 2015/2016
Final Examination

Return your question papers with the answer sheets

Date: 28.07.2016	**Duration: 3 hours**
Time: 9.30 am – 12.30 pm	**Index No: .....**

Please read the following instructions carefully before you answer the paper.

Answer all the questions.

Part A: Multiple Choice Questions (30 marks)

There are thirty multiple choice questions in this paper, each question with four responses. Select the **best response** and put 'X' mark for the correct answer in the given answer sheet.

Part B: Structured Essay Questions (70 marks)

You are given six questions. Answer all the questions in given answer sheets.

Good Luck

Part B: Structured Essay Questions (70 marks)

1. What is called as karyotyping? (05marks)

2. List **three** ways in which the genetic code protects against the effects of mutations. (15marks)

3. In a karyotyping based on amniocentesis indicates that a foetus has the chromosomal constitution of **46.xx.del (5)(p15).**
   What does this mean? (05 marks)

4. List **four** examples for single gene disorder? (05 marks)

5. i. Briefly explain how the complementary base pairing is responsible in following situations

   a) The structure of the DNA double helix. (02 marks)
   b) DNA replication. (02 marks)
   c) Transcription of RNA from DNA. (02 marks)

   ii. What is meant by posttranslational modification of proteins? (04 marks)

6. i. Briefly explain the different modes of inheritance of genes. (20 marks)

   ii. Draw a pedigree chart to show the following family history: (10 marks)
   One couple has a son and a daughter with normal skin pigmentation.
   Another couple has one son and two daughters with normal skin pigmentation.
   The daughter from the first couple is married to a son from the second couple and got three children. Their son and one daughter have albinism; the other daughter has normal skin pigmentation.

   What is the likely mode of inheritance in this pedigree?

.....The End.....