

**The Open University of Sri Lanka**  
**Faculty of Health Sciences**  
**Bachelor of Medical Laboratory Sciences (B.MLS)**  
**MLU3242 – Cell Biology & Basic Biochemistry**  
**Semester 02- Academic year 2015/2016**  
**Final Examination July 2016**



*Return your question papers with the answer sheets*

**Date: 20.07.2016**

**Duration: 3 hours**

**Time: 09.30 a.m. - 12.30 p.m.**

**Index No:.....**

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

**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 (30 marks)**

You are given four questions each question contains **four** parts. Answer question 1 and 2 in one answer booklet and 3 and 4 in separate answer booklets.

That is, Answer Booklet 1- Question 1,2

Answer Booklet 2- Question 3

Answer Booklet 3- Question 4

**Part C: Essay Questions (40 marks)**

There are two essay questions. Answer the questions separately in two answer booklets.

**Good Luck!**

**Part B: Structured Essay Questions (30 marks)**

*Answer all the questions.*

1.

1.1 Draw a labeled diagram of the mitochondrion. (2 marks)

1.2 List **three** functions of the endoplasmic reticulum. (1.5 marks)

1.3 Write a description on endocytosis. (2 marks)

1.4 Anabolic pathways are divergent. Comment on this. (2 marks)

2.

2.1 What are cofactors? (1.5 marks)

2.2 List **four** classes of enzymes. (2 marks)

2.3 State how fructose can be identified in the laboratory. (2 marks)

2.4 Briefly explain about isozymes. (2 marks)

3.

3.1 Name **five** different types of growth factors present in our body. (2.5 marks)

3.2 Name **two** essential molecules that act as quality control of cell cycle. (2 marks)

3.3 State **two** main genes that are responsible in promoting cancer. (1 marks)

3.4 State **two** different types of cell surface receptors. (2 marks)

4. Outline the importance of transamination in amino acid catabolism. (7.5 marks)

**Part C: Essay Questions (40 marks)**

*Answer all the questions.*

1. Explain the action of steroid hormones. (20 marks)

2. (a) Explain the consequences of placing a red blood cell in a hypotonic solution.

(6 marks)

(b) State why opposite metabolic pathways are reciprocal to each other.

(6 marks)

(c) Discuss the competitive inhibition of enzymes giving examples. (8 marks)

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