

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**EXAMINATION FOR ALLIED HEALTH SCIENCES DEGREE**  
**BASIC SCIENCES - FIRST YEAR FIRST SEMESTER - DECEMBER 2014**  
**AHSBB 1104 – BASIC BIOCHEMISTRY**



**Date: 15.12.2014**

**Time: 2 Hours**

**Answer all six questions.**

**PAPER II**

1. 1.1 Explain the advantage of having pentose phosphate pathway in red blood cells. **(50 Marks)**  
1.2 List four key gluconeogenic enzymes and their catalytic reactions in the gluconeogenesis pathway. **(50 Marks)**
  
2. 2.1 Diagrammatically show steps involved in the metabolism of chylomicrons. **(50 Marks)**  
2.2 Discuss the biochemical basis of "Allupurinol in treatment of hyperuricemia". **(50 Marks)**
  
3. 3.1 3.1.1 Define the term 'competitive inhibition'. **(25 Marks)**  
3.1.2 Explain one example for the practical application of competitive inhibition. **(25 Marks)**  
3.2 Explain the steps involved in protein digestion and absorption in alimentary canal. **(50 Marks)**
  
4. 4.1 List the immunoglobulin isotypes and two of their functions to each isotypes. **(30 Marks)**  
4.2 Explain the properties of genetic code in eukaryotic cells. **(20 Marks)**

- 4.3 Write short notes on
- 4.3.1 Obstructive jaundice. (30 Marks)
  - 4.3.2 Frame shift mutation. (10 Marks)
  - 4.3.3 Silent mutation. (10 Marks)
- 5.
- 5.1 Explain how the plasma calcium level is regulated. (40 Marks)
  - 5.2 Give the biochemical functions of vitamin A. (30 Marks)
  - 5.3 Discuss the nutritional value of cow milk. (30 Marks)
6. A 35-year old sedentary women weighing 80kg with height of 160 cm. She plans to do better weight reduction programme.
- 6.1 What is her body mass index? (10 Marks)
  - 6.2 How many weeks she could perform the weight reduction program to obtain normal weight? (30 Marks)
  - 6.3 Calculate her protein requirement at normal weight. (30 Marks)
  - 6.4 How would you provide a dietary advice to her? (30 Marks)