UNIVERSITY OF JAFFNA, SRI LANKA

FIRST EXAMINATION FOR MEDICAL DEGREES –APRIL 2010

BIOCHEMISTRY PAPER II

Date: 19.04.2010 **Time: 3 Hours**

Answer all ten questions.

1. 1.1 Explain how glycolysis and gluconeogenesis are reciprocally controlled. (60 Marks)

1.2 Explain how the oral glucose tolerance test is performed? Give the precautions which have to be taken before and during the test. (40 Marks)

2. 2.1 Explain how the cellular cholesterol level is controlled in a normal person. (70 Marks)

2.2 Diagrammatically show the electrophoretic pattern of the lipid profile of a hypercholesterolemic patient and compare it with that of a normal subject. (40 Marks)

3. 3.1 Compare the changes in the levels of biochemicals in the urine and serum of a haemolytic jaundice patient with that of an obstructive jaundice patient. Give reasons. (50 Marks)

3. 2 List the composition and properties of bile and explain its role in digestion and absorption of coconut fat. (50 Marks)

4. 4.1 List the functions of the different plasma proteins. (50 Marks)

4.2 Write short notes on the alterations in plasma proteins with respect to

4.2.1 Albumin (30 Marks)

4.2.2 Globulin (20 Marks)

5. 5.1 5.1.1 Outline how dietary choices/deficiency elevate homocystein level in blood. (15 Marks)

5.1.2 Give dietary advice to reduce homocystein level in blood with biochemical explanations. (35 Marks)

5.2 Explain how the iron absorption and transport are controlled? (50 Marks)

6. 6.1 6.1.1 Define competitive inhibition. (15 Marks)

6.1.2 Explain the treatment of patients with methanol poisoning on the basis of competitive inhibition. (35 Marks)

6.2 Discuss the uses of analysings the isoenzymes of creatine kinase and lactate dehydrogenase to exclude myocardial infarction. (50 Marks)

7. 7.1 List and give examples, and genotypes for sex chromosomal abnormalities of males and females. (40 Marks)

7.2 Explain with an example how 'Restriction Fragment Length Polymorphism' can be used in molecular diagnosis of diseases. (60 Marks)

8. 8.1 Explain

8.1.1 Opsonization (40 Marks)

8.1.2 Phagocytosis (20 Marks)

8.2 Explain the characteristic features of antibodies that facilitate these functions. (40 Marks)

9. 9.1 What is the 'Recommended daily intake of fibres? (10 Marks)

9. 2 Give the possible biochemical basis of the effect of dietary fibres on the patients with

9.2.1 Diabetes mellitus (30 Marks)

9.2.2 Dyslipidemia (30 Marks)

9.2.3 Diverticular disease (30 Marks)

10. Write short notes on

10.1 Effect of nutrition on infection. (35 Marks)

10.2 Eicosapentaenoic acid and cardiovascular diseases. (20 Marks)

10.3 Steroidal drug detoxification. (45 Marks)