

UNIVERSITY OF JAFFNA, SRI LANKA

FIRST YEAR SECOND SEMESTER EXAMINATION IN BPharmHons - 2023

PHABP 1222 –BIOCHEMISTRY FOR PHARMACY- II  
(14<sup>TH</sup> BATCH)

PAPER II

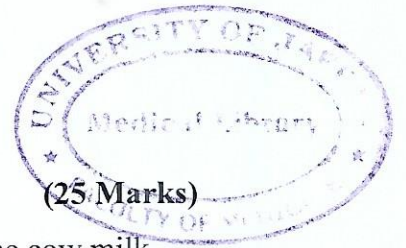
Date: 23 JUN 2025

Time: 2 Hours

ANSWER ALL SIX QUESTIONS ON SEPARATE ANSWER BOOK.

1. 1.1 List the three main different types of diabetes mellitus. (15 Marks)
- 1.2 Give reasons for the occurrence of the above types of diabetes mellitus. (30 Marks)
- 1.3 List four possible tests that could be carried out in blood to confirm that an individual is diabetic. (20 Marks)
- 1.4 Give the expected aimed cut off values of blood glucose level of a diabetic patient that could be obtained in the test mentioned in Section 1.3. (20 Marks)
- 1.5 Give the principle of the method that is used to measure the blood glucose level. (15 Marks)
  
2. 2.1 Explain with a diagram how the fats absorbed into the enterocytes are
  - 2.1.1 incorporated into chylomicron in the enterocytes. (25 Marks)
  - 2.1.2 distributed to different organs in the body by chylomicron. (25 Marks)
- 2.2 What is the normal range of blood LDL to HDL ratio. (10 Marks)
- 2.3 2.3.1 Diagrammatically show the lipid profile of a normal person and that of a hypercholesterolemic patient. (20 Marks)
- 2.3.2 Give reasons for the changes in the lipid profile in a diabetic patient. (20 Marks)

3. 3.1 3.1.1 List the conditions that can lead to increased blood ammonia level.  
(10 Marks)
- 3.1.2 Write down the reactions and the respective organ/s in which the detoxification of ammonia is taking place.  
(40 Marks)
- 3.2 3.2.1 List two transaminases that are useful to confirm myocardial infarction and liver diseases.  
(10 Marks)
- 3.2.2 Diagrammatically show the steps catalysed by the above-mentioned enzymes with their cofactors.  
(30 Marks)
- 3.2.3 Give the principles of the estimation of one of the above-mentioned transaminases in the laboratory.  
(10 Marks)
4. 4.1 4.1.1 Name the enzyme that is defective in Lesch Nyhan syndrome.  
(05 Marks)
- 4.1.2 Diagrammatically show the reaction catalysed by the enzyme mentioned in 4.1.1.  
(15 Marks)
- 4.2 4.2.1 List the proteins and enzymes that are involved in replication of the flow of genetic information in a eukaryotic cell.  
(30 Marks)
- 4.2.2 Explain the steps involved in the replication with a diagram and describe the functions of the above-mentioned proteins and enzymes in replication.  
(50 Marks)
5. 5.1 Explain why the following nutrients requirement of a pregnant woman is more than that of a non-pregnant woman of the same age.
- 5.1.1 Energy  
(20 Marks)
- 5.1.2 Protein  
(20 Marks)
- 5.2 For a well-nourished lactating mother for the first six months no additional energy is required. Explain.  
(20 Marks)
- 5.3 Explain 'supplementary action of proteins' with three examples.  
(25 Marks)
- 5.4 Explain 'Specific dynamic action'.  
(15 Marks)



6. 6.1 Give the importance of feeding an infant with colostrum. (25 Marks)
- 6.2 List the advantages of feeding a baby with human milk over the cow milk. (25 Marks)
- 6.3 Explain the advantages of including the fibres in the diet. (25 Marks)
- 6.4 Suggest five fibre rich dietary sources. (25 Marks)