

UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
FIRST YEAR FIRST SEMESTER EXAMINATION IN BScHons (Nursing)-2022
NURBN 1162 BIOCHEMISTRY FOR NURSES I

PAPER II

Date: 07.12.2023

Time: 2 Hours

Answer all the six questions.

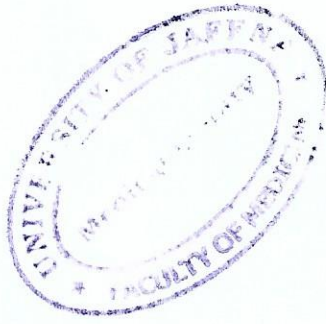
Answer Each Part in Separate Answer Books.



PART A

1. 1.1 Explain how haemoglobin buffer system acts. (20 Marks)
- 1.2 Give the biochemical basis of classifying the blood group antigens. (40 Marks)
- 1.3 1.3.1 List the essential fatty acids. (10 Marks)
- 1.3.2 Explain with examples, why certain fatty acids are called as **conditionally essential fatty acids**? (30 Marks)

2. 2.1 2.1.1 List the sites of distribution of collagen in human body. (20 Marks)
- 2.1.2 Briefly describe the process collagen synthesis and the posttranslational modification. (40 Marks)
- 2.1.3 Briefly explain biochemical basis of two clinical conditions that are associated with collagen synthesis. (20 Marks)
- 2.2 Classify the different membrane transport mechanisms with examples that are involved with ions, monosaccharides and amino acids. (20 Marks)



PART B

3. 3.1 3.1.1 Briefly explain how vitamin D is synthesised and converted to its biochemically active form. (30 Marks)
- 3.1.2 Explain how the biochemically active form of vitamin D helps in calcium homeostasis. (40 Marks)
- 3.2 Explain the biochemical basis of vitamin K in blood clotting. (30 Marks)
4. 4.1 4.1.1 List the probable causes of obstructive jaundice? (15 Marks)
- 4.1.2 Explain the biochemical findings that you would observe in the serum, urine and faeces of a patient with obstructive jaundice. (45 Marks)
- 4.2 Briefly explain the biochemical basis of neonatal jaundice. (20 Marks)
- 4.3 Write short notes on Thalassemia. (20 Marks)
5. 5.1 5.1.1 Explain with a diagram how thyroid hormone is synthesised in thyroid follicular cells and released into the circulation. (45 Marks)
- 5.1.2 Explain how thyroid hormone is transported in the blood and converted to its active form in the target cells. (35 Marks)
- 5.2 List the biochemical findings that are observed in a patient with iron deficiency. (20 Marks)
6. 6.1 Explain how dietary carbohydrates are digested and absorbed. (35 Marks)
- 6.2 Explain why the ATP production by oxidation of NADH is more than that of FADH₂? (30 Marks)
- 6.3 6.3.1 List the different immunoglobulins. (10 Marks)
- 6.3.2 Draw the structure of an immunoglobulin. (25 Marks)