



UNIVERSITY OF JAFFNA, SRI LANKA  
FACULTY OF ALLIED HEALTH SCIENCES

FIRST YEAR SECOND SEMESTER EXAMINATION IN BScHonos (Nursing)-2022

NURBN 1263 BIOCHEMISTRY FOR NURSES II  
(16<sup>th</sup> & 17<sup>th</sup> BATCHES)

PAPER-II

Date: 18.06.2024

Time: 02 Hours

Answer all the six questions.

Answer each part in separate answer books.

**PART A**

1. 1.1. List the hormones which regulate the blood glucose level. (10 Marks)
- 1.2. Explain how the above said hormones maintain the blood glucose level. (40 Marks)
- 1.3. Name the test is specifically used for blood glucose estimation and give its principle of the method. (20 Marks)
- 1.4. Explain how a person can be prepared for Oral Glucose Tolerance Test (OGTT). (30 Marks)

**PART B**

2. 2.1 2.1.1 List the major nitrogen excretory products synthesized in the body. (15 marks)
- 2.1.2 Diagrammatically show how the ammonia from alanine is converted to citrulline. (35 marks)
- 2.2 Diagrammatically show and explain how the intra-chain thymine dimmers in DNA are repaired. (20 Marks)
- 2.3 A 10-year-old boy presented with mental retardation and self-mutilation having elevated serum uric acid and PRPP amidotransferase activity.
  - 2.2.1 Name the most probable defect in this child. (05 Marks)
  - 2.2.2 Explain the biochemical basis of the above condition. (25 Marks)

3. 3.1 List the Apoproteins of lipoproteins and their functions. (20 marks)
- 3.2 Diagrammatically show the metabolism of Very Low-Density Lipoprotein (VLDL). (40 marks)
- 3.3 Explain how the body deals with the lipolytic products in adipocyte. (40 marks)

### PART C

- 4 4.1 List the four methods that are used to calculate the energy expenditure. (20 marks)
- 4.2 4.2.1 Define Basal Metabolic Rate (BMR). (10 marks)
- 4.2.2 Explain how BMR is measured. (20 marks)
- 4.2.3 List the factors that affect BMR. (20 marks)
- 4.3 Daily diet of an adult contained 400g of carbohydrate, 40g of protein and 100g of fat.
- 4.3.1 Comment on his total energy intake. (15 Marks)
- 4.3.2 Comment on his carbohydrate intake. (15 Marks)
5. 5.1 5.1.1 Define the term nitrogen equilibrium. (10 Marks)
- 5.1.2 Explain how the nitrogen equilibrium is computed. (10 Marks)
- 5.1.3 List the factors that affect the nitrogen equilibrium. (20 Marks)
- 5.2 Explain the 'Supplementary Action of Proteins' with examples. (30 Marks)
- 5.3 List the features of a good weaning food. (20 Marks)
6. 6.1 List the different forms of malnutrition observed in children. (20 Marks)
- 6.2 Define 'chemical score of a protein' and 'net protein utilization'. (20 Marks)
- 6.3 Give a brief account on the importance of calcium to a pregnant mother. (20 Marks)
- 6.4 Explain why the brown rice is better than white rice. (20 Marks)
- 6.5 Outline the impotence of dietary fibres. (20 marks)