

UNIVERSITY OF JAFFNA, SRI LANKA
First Year Second Semester Examination in BSc Hons (Nursing) - 2020

NURBN1263 – BIOCHEMISTRY FOR NURSES II

PAPER- II

05.09.2022

Time: 2 hours



Answer All Questions.

Answer Each Question on separate answer Books.

1. 1.1 List the causes for the development of Type 1 diabetes mellitus. (20 Marks)
- 1.2 Explain how the above said causes are leading to Type 1 diabetes mellitus. (60 Marks)
- 1.3 Give the expected fasting and postprandial blood glucose and glycosylated haemoglobin in Type 1 diabetes mellitus patients. (20 Marks)

2. 2.1 Name the plasma lipoprotein/s which is/are rich in
 - 2.1.1 Cholesterol
 - 2.1.2 Triacylglycerol
 - 2.1.3 Apoproteins(25 Marks)
- 2.2 List the apoproteins and their functions. (25 Marks)
- 2.3 Show diagrammatically the metabolism of HDL. (50 Marks)

3. 3.1 Name three different sources of blood ammonia? (15 Marks)
- 3.2 Show diagrammatically how the ammonia from alanine can get into citrulline. (45 Marks)
- 3.3 Schematically show the amino acids which predominate in the blood and explain why they are altered
- 3.3.1 during the first two hours after a meal.
- 3.3.2 about 12 hours after the last meal. (40 Marks)
4. 4.1 Skin of a 13 year old boy was very sensitive on exposure to sunlight. His skin fibroblast cell culture was UV irradiated and the extracted DNA had abnormally high percentage of thymine dimmers.
- 4.1.1 What is the probable defect in this boy? (10 Marks)
- 4.1.2 Diagrammatically show how intra-chain thymine dimmers in DNA are repaired in a normal individual? (30 Marks)
- 4.1.3 Summarise the mechanisms involved in the causation of the disease? (15 Marks)
- 4.2 A male child had mental retardation and extremely aggressive behaviour that lead to self-mutilation. The serum uric acid level was elevated with increased PRPP amidotranferase activity.
- 4.2.1 Give the probable defect in this child. (10 Marks)
- 4.2.2 Explain the biochemical basis and the complications which can arise due to the above mentioned condition. (35 Marks)
5. 5.1 Suggest the cheap foods (initiating complementary feeding) to a mother to initiate weaning. (50 Marks)
- 5.2 List the adverse effects of feeding unmodified cow milk to infants who are less than three months of age. (50 Marks)

6. Estimated energy requirement of a sedentary male of 40 years with 75kg body weight and 160cm height was 2000kcal/day.
- 6.1 Comment on his current BMI. (10 Marks)
- 6.2 Suggest life style modification to correct his BMI. (30 Marks)
- 6.3 Explain the basis of formulating a healthy diet plate for the above man and the importance of the ingredients suggested in the plate. (60 Marks)

