

UNIVERSITY OF JAFFNA, SRI LANKA

First Year Second Semester Examination in BScHons (Nursing) - 2019

NURBN1263 – BIOCHEMISTRY FOR NURSES II

PAPER- II

24.01.2022

Time: 2 hours

Answer All Questions.

Answer Each Question on separate answer Books.

1. 1.1 Give the expected blood glucose range of a
    - 1.1.1 normal person after 12h of fasting. (10 Marks)
    - 1.1.2 normal person after 2h of a meal. (10 Marks)
    - 1.1.3 prediabetic person after 12h of fasting. (10 Marks)
  - 1.2 A diabetic patient taking enough calories and other nutrients was losing weight. Explain. (40 Marks)
  - 1.3 1.3.1 What is gestational Diabetes. (10 Marks)  
1.3.2 Give the causes of gestational diabetes. (20 Marks)
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2. 2.1 Show diagrammatically how an increase in glycogenolysis can lead to a decrease in glycogenesis in liver. (50 Marks)
  - 2.2 Explain the causes of developing ketosis in untreated diabetes mellitus patients. (50 Marks)

3. 3.1 3.1.1 List the ketone bodies? (10 Marks)
- 3.1.2 Outline the pathways of formation of ketone bodies from fatty acids. (40 Marks)
- 3.2 Explain how the elevated serum cholesterol level leads to atherosclerosis. (30 Marks)
- 3.3 Explain how the administration of statin decreases blood cholesterol level. (20 Marks)
4. 4.1 A mother complained that her child was mentally retarded for the chronological age and was extremely irritable. The blood phenylalanine level was elevated and the urine contained phenyl pyruvate.
- 4.1.1 Suggest the probable defect in the child. (10 Marks)
- 4.1.2 Explain the probable causes for the above said condition. (35 Marks)
- 4.1.3 How would detect phenyl pyruvic acid in urine? (15 Marks)
- 4.3 A 6-year-old girl was affected with homocystinuria. Administration of vitamin B<sub>6</sub> decreased the excretion of homocystine in urine. Give the reactions leading to the formation of homocystine and explain the rationale of treating this patient with vitamin B<sub>6</sub>. (40 Marks)
5. 5.1 Explain the purine synthetic pathways and their control. (40 Marks)
- 5.2 Explain the pathways of “flow of genetic information”. (60 Marks)
6. 6.1 What is energy balance? Explain (20 Marks)
- 6.2 6.2.1 define glycaemic index. (10 Marks)
- 6.2.2 Which factors influence glycaemic index of a mixed diet? Explain. (50 Marks)
- 6.3 Explain supplementary action of proteins with examples. (20 Marks)