UNIVERSITY OF JAFFNA, SRI LANKA

FACULTY OF ALLIED HEALTH SCIENCES

FIRST YEAR FIRST SEMESTER B.SC. IN NURSING EXAMINATION-2019

NURBN 1162 –BIOCHEMISTRY FOR NURSING- I

PAPER II

Date: 19.04.2021 **Time: 2 Hours**

ANSWER ALL SIX QUESTIONS ON SEPARATE ANSWER BOOK.

Marks allotted to each part are given within brackets.

1. 1.1 Write short notes on

   1.1.1 Salting out. **(20 Marks)**

   1.1.2 Separation of proteins by electrophoresis. **(30 Marks)**

   1.1.3 Functions of plasma proteins. **(25 Marks)**

   1.2 Explain how cells self-regulate energy production. **(25 Marks)**

2. 2.1 List the different pathological conditions which can lead to the increase in serum unconjugated bilirubin level. **(20 Marks)**

   2.2 Explain the biochemical changes that you would observe in the serum and urine under the conditions mentioned in Section 2.1. **(35 Marks)**

   2.3 Name the tests and give the principles of the tests that would be performed to detect the bilirubin in serum and the expected metabolite in the urine. **(25 Marks)**

   2.4 Explain the causes for the changes in the faeces which you mentioned in Section 2.1. **(20 Marks)**

3. **3.1** Explain how the thyroid hormone is formed and secreted by the thyroid gland. **(40 Marks)**

3.3 Write Short notes on

3.3.1 Eicosanoids. **(20 Marks)**

3.3.2 Phospholipids. **(20 Marks)**

3.3 Explain how the haemoglobin buffer system is effective in maintaining blood pH. **(20 Marks)**

4. **4.1** Explain the composition of Oral Rehydration Salt and their uses. **(30 Marks)**

4.2 Show how dietary carbohydrates are digested and absorbed? **(45 Marks)**

4.3 Explain how iron is absorbed by the intestinal mucosal cells. **(25 Marks)**

5. **5.1** Show how monoclonal antibodies are formed against a protein? **(45 Marks)**

5.2 List 3 DNA repair mechanisms. **(15 Marks)**

5.3 Describe a simple test to differentiate monosaccharides from disaccharides. **(20 Marks)**

5.4 Give the functions of glucosaminoglycans with examples. **(20 Marks)**

6. **6.1** **6.1.1** Explain the role of vitamin K in blood clotting? **(30 Marks)**

6.1.2 Explain how warfarin inhibits blood clot formation. **(20 Marks)**

6.2 Explain the role of vitamin E as an antioxidant. **(30 Marks)**

6.3 Explain how competitive inhibitors reduce the product formation of a reaction with an example? **(20 Marks)**