



**University of Ruhuna - Faculty of Medicine**  
**Allied Health Sciences Degree Programme**  
**B.Sc. Nursing Degree Programme**  
**1<sup>st</sup> End Semester Examination**

## **NBI 1113- Biochemistry**

SEQ paper

31<sup>st</sup> July 2017

**Duration: One (1) hour**

**Index Number .....**

1.

1.1.

1.1.1. Draw and label the phospholipids bilayer (Fluid Mosaic Model). (10 marks)

Page 1 of 7

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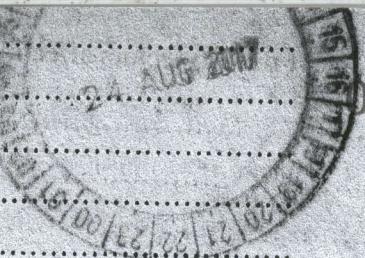
1.1.2. Briefly explain the structural components of the above bilayer. (20 marks)

This image shows a close-up of a textured, light-colored surface, likely a wall or a piece of fabric. The texture is grainy and uneven. Several dark, horizontal streaks run across the frame, suggesting dust or water damage. In the upper left corner, there is a faint, circular, embossed-like stamp or seal, though its details are not clearly legible. The overall lighting is low, creating deep shadows and bright highlights that emphasize the physicality of the material.

1.2.

1.2.1. Mention the different structural organizations of proteins. (10 marks)

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**1.2.2. List four (4) functions of proteins in the body (20 marks)**

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1.3. List five (5) factors affecting enzyme activity (20 marks)

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1.4 List four (4) functions of steroids in the body. (20 marks)

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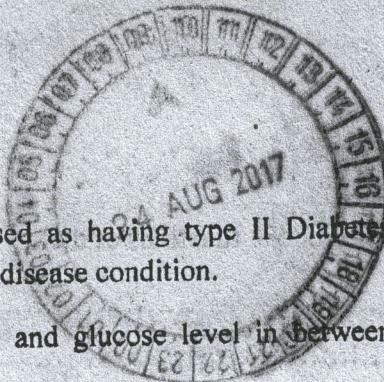
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2.

2.1 Ms Sumana 45 years a woman was newly diagnosed as having type II Diabetes Mellitus. She is interested to know information regarding her disease condition.

2.1.1 Illustrate how liver maintains blood glycogen level and glucose level in between meals in a healthy person. (25marks)



B.Sc. in Nursing Degree Programme

24 AUG 2017

Faculty of Medicine, University of Ruhuna.

2.1.2 State how you prepare your patient for OGTT (20 marks)

2.2

### **2.2.1 Describe the functions of dietary fibers (10 marks)**

This image shows a stack of white, textured paper with horizontal dotted lines, likely from a notebook or ledger. The paper has a slightly aged, off-white appearance. The dotted lines are evenly spaced and run horizontally across each page. There are some dark, irregular smudges or stains on the paper, particularly towards the top and middle sections. The overall texture is slightly grainy, and the edges of the pages are visible.

2.2.2 State how you can increase fiber intake (10 marks)

A stack of five white, textured, rectangular cards or pieces of paper. The cards are slightly irregular in shape and appear to be made of a thick, fibrous material. They are stacked vertically, with the top card visible and the others partially hidden behind it. The texture of the material is clearly visible on the surface of the cards.

### 2.3 Explain the biochemical basis of following conditions.

### 2.3.1 Actinomycin D use as an anticancer drug (15 marks)

24 AUG 2011

### **2.3.2 Development of severe hemolysis in malaria given primaquine to a G6PD patient. (20 marks)**