



Library
Faculty of Technology
Rajarata University of Sri Lanka
Mihinthalé

**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**B.Sc. (General) Degree in Applied Sciences
Second Year - Semester II Examination – October/ November 2017**

CHE2104 –INTRODUCTION TO BIOCHEMISTRY

Answer ALL questions

Time: ONE hour

1.

- a) Explain the roll of Hydrogen bonding that support to stabilize the structure of α -helix? **(10marks)**
- b) Discuss the amino acids that disrupt the structure of an α -helix. **(10 marks)**
- c) Explain the biochemistry of Alzheimer's disease. **(5 marks)**

2.

- a) Define the following terms. **(10 marks)**
 - i. Holoenzyme
 - ii. Apoenzyme
 - iii. Cofactor
 - iv. Coenzyme
- b) Compare the binding behavior of competitive inhibitors and noncompetitive inhibitors. **(10 marks)**
- c) Why does the amino acid Proline differ from other amino acids? **(5 marks)**

3.

a) Give two examples for each category of amino acids.

(10 marks)

- i. Amino acids with nonpolar side chains
- ii. Amino acids with uncharged polar side chains
- iii. Amino acids with acidic side chains
- iv. Amino acids with basic side chains

b) Giving examples, explain the two types of polysaccharides, homopolysaccharide and heteropolysaccharide.

(10 marks)

c) Why is cellulose non-digestible whereas starch is digestible in the human.

(5 marks)

4.

a) Compare and contrast the main structural features of starch and cellulose.

(10 marks)

b) Compare and contrast the Oxygen-dissociation curves for hemoglobin and myoglobin.

(10 marks)

c) Explain the Bohr effect.

(5 marks)