



RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (Honours) Degree in Chemistry
Third Year Semester II Examination – February /March 2019

CHE 3202 – ADVANCED BIOCHEMISTRY

Time: Two (02) hours

Answer All Questions

1.

- a) Derive Eadie-Hofstee plot to determine Michaelis constant starting from Michaelis-Menton equation.

(30 marks)

- b) State and discuss the drawbacks of Eadie-Hofstee plot.

(30 marks)

- c) Allosteric site acts as on/off switch for the enzyme activity. Illustrate your answer by means of enzyme activity.

(40 marks)

2.

- a) Gluconeogenesis is not simply the reverse of the glycolysis. Explain with the use of suitable reactions.

(30 marks)

- b) Discuss the reactions involved in energy generation phase of glycolysis.

(30 marks)

(Cont'd)

- c) Pentose Phosphate pathway doesn't involve in direct production or consumption of ATP. However, it is very important metabolic fate of glucose. Defend the statement.
(40 marks)

3.

- a) Briefly discuss the primary sources of glucose in blood.
(30 marks)
- b) State the sites of glycogen stores in humans and indicate their respective functions.
(30 marks)
- c) Explain the Glycogenolysis using appropriate structures and sketches.
(40 marks)

4.

- a) List the three types of proteins that regulate transcription initiation by RNA polymerase. Identify the role of each type.
(20 marks)
- b) Account for the following techniques used in proteins separation:
- i. Gel- Chromatography.
 - ii. Solvent and salt precipitation.
- (40 marks)
- d) Explain the facilitated diffusion with the suitable diagrams.
(40 marks)

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