



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (SPORTS SCIENCE)

SSS 106 : EXERCISE BIOCHEMISTRY I

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DATE: TUESDAY 3RD APRIL 2012

TIME: 2.00 P.M. – 4.00 P.M.

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INSTRUCTIONS

1. Answer Question One (Compulsory) and any other Two questions

Question One

- a) Explain the following terms
- i) Catenate (2 marks)
 - ii) Dietary Reference Intake (2 marks)
 - iii) Stereoisomerism (2 marks)
 - iv) Bioavailability (2 marks)
 - v) Essential amino acids (2 marks)
- b) Draw and explain the structural formulae of the following molecules (5 marks)
- i) Glyceraldehydes
 - ii) Dihydroxyacetone
 - iii) Glycerol
 - iv) Maltose
 - v) Glucose
- c) Explain the factors that influence absorption of drugs (15 marks)

Question Two

- a) Describe the composition of muscle fibre (10 marks)
- b) Using a flow diagram explain the Krebs's cycle (10 marks)

Question Three

- a) Describe the processes of oxidative phosphorylation in the mitochondria. (10 marks)
- b) Explain the mechanisms of muscle contraction. (10 marks)

Question Four

- a) Explain the glycolytic pathway and indicate the sites of substrate level phosphorylation. (15 marks)
- b) Describe the fate of pyruvate in muscle under aerobic and anaerobic respiration. (5 marks)

Question Five

Elaborate on carbohydrates, fat and proteins under the following

- i) Source (3 marks)
- ii) Classification (6 marks)
- iii) Nutritional purpose (3 marks)
- iv) Utilization during exercise (6 marks)
- v) Energy value (2 marks)