



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2007/2008
INSTITUTIONAL BASED PROGRAM - APRIL 2008 SESSION
EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE

HLR 500: PHYSIOLOGY OF EXERCISE

DATE: Friday 29th August 2008

TIME: 9.00am – 12.00pm

INSTRUCTIONS: Answer any THREE questions.

- Q1. (a) With the use of examples, analyse the oxidation-reduction (redox) reactions that take place in tissues during exercise. [11.3 marks]
- (b) Explain the aerobic respiration process commencing from pyruvic acid formation to the entire Krebs's cycle. [12 marks]
- Q2. (a) Explain the physiological functions of bones and show the significance of these functions in exercise performance. [6 marks]
- (b) With reference to the use of calcium in the human body,
- (i) Analyse its significance. [3 marks]
- (ii) Analyse the relationship between calcium control in the human body to exercise performance. [14.3 marks]
- Q3. Relate the fine structure of the following parts of a muscle to their function during exercise performance.
- (a) Contractile proteins. [15.3 marks]
- (b) Neural-muscular junctions. [8 marks]

- Q4. (a) Differentiate between “skeletal muscle pump” and “respiratory pump”.
[2 marks]
- (b) Explain hypertension in terms of its causes, assessment and control through physical activity.
[6.3 marks]
- (c) Analyze the meaning and determinants of the following:
- (i) edema. [8 marks]
- (ii) cardiac out put. [7 marks]
- Q5. (a) Analyze the anatomical significance of erythrocytes to their physiology.
[4 marks]
- (b) Explain erythropoiesis and induced erythrocythemia in relation to prolonged physical exercise.
[4 marks]
- (c) Differentiate between carbon monoxide poisoning and smoke inhalation injury in terms of meaning, causes, effects in the body, treatment/management and relevance to physical performance.
[15.3 marks]

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