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Family Name					
Given Name/s					
Student Number					
Teaching Period	Semester 2, 2018				

SPE209 – Exercise Physiology 1	DURATION	
	Reading Time:	10 minutes
	Writing Time:	120 minutes
INSTRUCTIONS TO CANDIDATES		
<p>This examination has 2 sections:</p> <p>Section A: Suggested Time: 60 minutes Multiple Choice Questions: Answer ALL 40 questions on the multiple-choice answer sheet paper. Marks indicated: 20 marks. Marks for each question are of equal value.</p> <p>Section B: Suggested Time: 60 minutes Essay Questions: Answer ALL 5 questions in the spaces provided on the examination paper. Marks indicated: 30 marks. Marks for each question are of equal value.</p>		
EXAM CONDITIONS		
<p><u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.</p>		
This is a CLOSED BOOK examination		
No calculators are permitted		
No handwritten notes are permitted		
No dictionaries are permitted		
ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED	
No additional printed material is permitted	College Multiple Choice Answer Sheet	

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Section B Essay Questions

Total Marks for this section: 30

This section should be answered on the Examination paper.

Marks for each question are indicated. Suggested Time allocation for Section B: 60 minutes

- 1- A midfield AFL player ran 1.5km in 5 minutes.
- a. Explain the dominant energy system during this test.
 - b. Explain maximum aerobic speed (MAS), and calculate his MAS.
 - c. Design a training program to improve his aerobic fitness.

(Marks: 6)

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- 2- Answer the following questions regarding Lactate threshold (LT).
 - a. What is LT and why is it important to measure LT?
 - b. What are the differences between the LT of a trained and untrained person?
 - c. Compare the LT of a 400m sprinter with the LT of a 10km runner.
 - d. What is the effect of aerobic exercise on LT?

(Marks: 6)

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- 3- A track and field athlete completed an 800m sprint in 1 minute and 45 seconds. Three minutes after his sprint, the blood lactate was measured and the results showed the concentration of 16 mmol/L.
- a. List and explain the involved exergy systems in this activity.
 - b. Explain why such high levels of lactate is being produced during an 800m sprint?
 - c. What recovery strategy should be used to assist with the recovery? Discuss your prescribed recovery method.
 - d. Discuss if this athlete would benefit from creatine supplementation?

(Marks: 6)

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- 4- An elite 800m sprinter and a recreationally trained person run 400m together in 60 seconds. Answer the following question regarding this friendly competition:
- a. Which participant would have a higher blood lactate level and why?
 - b. Which participant would have a higher oxygen debt and why?
 - c. Which participant would have a higher RER and why?

(Marks: 6)

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- 5- Answer the following questions regarding pulmonary function.
- a. List different methods of gas transport for oxygen and carbon dioxide?
 - b. What is the maximum oxygen carrying capacity in 1dL of blood in males? How would this capacity change in response to regular training?
 - c. Explain oxyhaemoglobin dissociation curve and explain why this phenomenon is important during exercise?
 - d. What variable controls the respiratory rate at rest and during exercise?

(Marks: 6)

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