Examination Period 1: 2018/19

Module Title: Applied Human Performance
Level: Six
Time Allowed: One hour and thirty minutes

Instructions to students:
- Enter your student number **not** your name on all answer books.
- Answer **two** out of **four** questions.
- All questions are equally weighted.
- Graph paper can be located at the back of each answer book or will be provided.

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Answer **two** out of **four** questions

**Question 1**

Prescribe a maximal aerobic capacity test for two distance runners. One runner competes at an international level and trains on a daily basis. The other runner describes himself as ‘recreational’ and performs a few runs a week. Critically analyse and justify your chosen test(s), predict the outcomes of these tests and explain the possible causes of difference in outcome between the two runners.

**Question 2**

You have been approached by Northampton Town Football Club. They would like you to assess the physical capacities of their players so that they have a better understanding of their capabilities of completing a demanding upcoming fixture schedule. Select and critique fitness tests that you would administer in order to determine human physical performance and provide recommendations to improve their statistics, giving scientific rationale.

**Question 3**

Critically analyse the physiological response to a six-minute Astrand test on a cycle ergometer. Compare and contrast this response to a subsequent Astrand test performed after a six-week endurance training programme. Use reference to the early, middle and late stages of the test, as well as the recovery period. You may use graphs to support your answer.

**Question 4**

A male 400m sprinter completed an interval training session on the track. His session involved six repetitions of 200m, with a 60 second passive recovery period between each. His split time (in seconds) for each repetition was as follows:

1) 25.5  
2) 25.6  
3) 26.2  
4) 27.1  
5) 27.0  
6) 27.7

Referring to physiological mechanisms, explain and critically evaluate the change in the sprinter’s times throughout the course of the session. In addition, suggest recommendations for the completed training sessions should it be repeated in the future.

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**End of Paper**