Examination Period 3: 2017/18

SPM300818N

Module Title: Applied Human Performance
Level: Six
Time Allowed: Two Hours

Instructions to students:
• Enter your student number not your name on all answer books.
• Answer two out of five questions.
• All questions are equally weighted.
• Graph paper will be provided.

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Answer two out of five questions

1. Discuss the assessment of aerobic capacity for elite road cyclist. Select and justify an appropriate test and outline the procedure used and explain the expected results to be achieved. Explain test termination criteria that should be considered and explain those factors which may limit an individual’s VO\(_{2}\)max.

2. Discuss the effect of active and passive recovery following a 400m sprint on blood lactate and pH.

3. Rugby Union requires players of varying anthropometric profiles to perform high-speed anaerobic bouts of activity enduring an extensive number of collisions as players from opposing teams compete for ball possession and territory in their advance towards the opposition try line or goal posts to score points.
   What battery of tests could be employed to provide a full fitness screening for the Moulton College Rugby Academy? Discuss your selection of tests.

4. Plot a graph showing a typical lactate threshold curve. The graph should be fully labelled and contain relevant values and units of measurement. Explain how a 12 week high intensity training programme would alter the curve. With reference to the underlying physiology, explain these changes.

5. Explain the graph below with reference to energy systems and mechanisms of muscle fatigue.

![Figure 1 Wingate Test](image)