**Bangor University**

**School of Sport, Health and Exercise Sciences**

**Entrance Scholarship Exam 2018**

**Time**: 2 hours.

**Instructions to Candidates**

Use black ink or black ball-point pen. Do not use pencil or gel pen.

Write your name and school/college on your answer booklet.

ANSWER ALL 7 QUESTIONS.

Write your answers on the answer sheet provided. If you use more than one sheet of paper, fasten the sheets together.

**Information for Candidates**

The number of marks is given in brackets ( ) at the end of each part question. There are a maximum of 43 marks available.

You are reminded of the need for good English and clear presentation in your answers.

Diagrams, charts and graphs can be used to support answers when they are appropriate.

This examination paper consists of three printed pages.

1. Describe the main differences between fast twitch and slow twitch muscle fibres. [4]
2. Performance analysis support, such as that provided by the English Institute of Sport, is becoming an integral part of an elite athlete’s preparation for competition. Explain, using specific examples, the different performance analysis tools that might be used to analyse the technical aspect of performance in a sport of your choice. [5]
3. At the highest levels, tennis is an exceptionally explosive and high intensity sport. It is characterised by quick starts and stops, powerful strokes requiring the involvement of several muscle groups and levels of work intensity which fluctuate from brief periods of maximal or near maximal work to longer periods of moderate intensity activity. Players need exceptionally high levels of both aerobic and anaerobic fitness in order to meet the demands placed on them.
   1. Define the term VO2max and explain how continuous training can increase an athlete’s VO2max and how this would improve performance in tennis. [6]

Top level players such as Novak Djokovic and Andy Murray can hit ground strokes at speeds in excess of 90mph but still manage to keep the ball in play. Serves can be hit at speeds that have been recorded at over 150mph.



* 1. Using biomechanical principles and the information above, explain the effect of top spin on the flight path of a tennis ball. [5]

1. Describe how a performer’s low self-esteem can affect the learning of new skills and explain how a teacher/coach can help promote self-esteem. [4]
2. Coaches will often use a demonstration when introducing such a skill to beginners. Explain, using Bandura’s theory of observational learning, how a performer can learn a new skill through the use of a demonstration. [4]
3. Analyse, with reference to specific theories, how arousal levels can affect levels of performance. [9]
4. Nutrition is a key element in any endurance activity. Explain how nutrition can be manipulated before, during and after exercise to enhance performance. [6]

**END OF EXAM** ☺