



General Certificate of Education  
Advanced Level Examination  
June 2012

## Physical Education

## PHED3

### Unit 3 Optimising Performance and Evaluating Contemporary Issues within Sport

Wednesday 20 June 2012 1.30 pm to 3.30 pm

**For this paper you must have:**

- an AQA 16-page answer book.

**Time allowed**

- 2 hours

**Instructions**

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Write the information required on the front of your answer book. The **Examining Body** for this paper is AQA. The **Paper Reference** is PHED3.
- Answer **nine** questions.
- In **Section A**, **Section B** and **Section C**, answer the **first** question and **two** other questions from this section.
- Do all rough work in your answer book. Cross through any work that you do not want to be marked.

**Information**

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 84.
- Question 1, Question 5 and Question 9 should be answered in continuous prose.
- In these questions, you will be marked on your ability to:
  - use good English
  - organise information clearly
  - use specialist vocabulary where appropriate.

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**Section A**

Answer **three** questions.

Answer Question 1 **and** any two from Question 2, Question 3 **or** Question 4.

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**Question 1**

**Figure 1** shows Mo Farah with the gold medal he won in the 5000 metres at the 2011 World Championships in Athletics held in South Korea.

**Figure 1**



Preparation for endurance based events often involves training at altitude to develop a performer's  $VO_2$  max.

**0 | 1**

Discuss the suggestion that altitude training always improves performance in endurance events **and** explain the factors that contribute to a performer's  $VO_2$  max. *(14 marks)*

**Question 2**

Elite athletes must develop and maintain extremely high levels of fitness to maximise their chances of winning.

Elite athletes may use the results from lactate sampling and the respiratory exchange ratio (RER) to ensure that their training is effective.

**0 | 2**

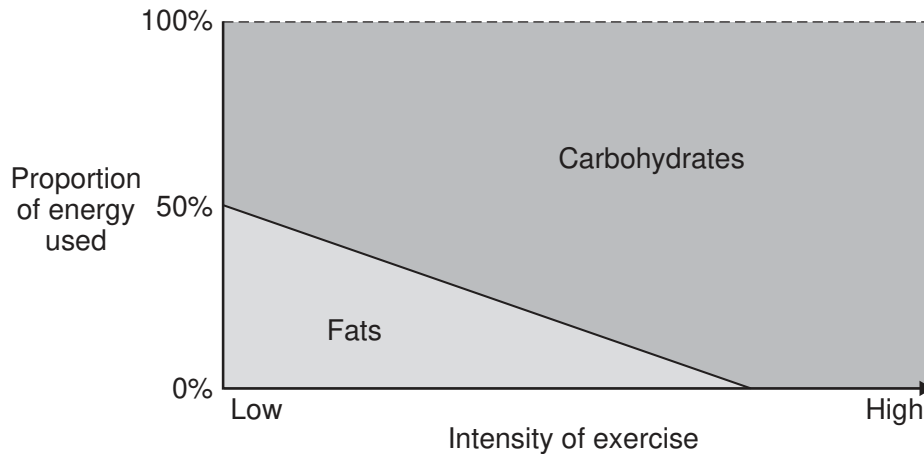
Explain the terms lactate sampling **and** respiratory exchange ratio. *(4 marks)*

**0 | 3**

How may hyperbaric chambers aid injury rehabilitation? *(3 marks)*

**Question 3**

**Figure 2** shows the proportions of carbohydrates and fats used for energy during a race of increasing intensity.

**Figure 2****0 | 4**

Using your knowledge of energy systems, outline **and** explain the relationship between energy sources and intensity of exercise. (7 marks)

**Question 4**

The final stage of an endurance race often involves a sprint finish.

**0 | 5**

Using Newton's Second Law of Motion, explain how an athlete is able to accelerate towards the finish line. (3 marks)

The Sliding Filament Hypothesis suggests that muscular contraction occurs in the sarcomeres of muscle fibres.

**0 | 6**

Explain how actin and myosin filaments in the sarcomere bind together during muscular contraction. (4 marks)

**Turn over for the next section**

**Turn over ►**

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## Section B

Answer **three** questions.

Answer Question 5 **and** any two from Question 6, Question 7 **or** Question 8.

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### Question 5

**Figure 3** shows captain Colin Montgomerie and the European golf team celebrating victory against the USA team, having won the 2010 Ryder Cup.

**Figure 3**



0 7

Using appropriate psychological theories, explain why performers may have different levels of optimal arousal **and** outline various somatic stress management techniques that can be used to control anxiety levels. *(14 marks)*

### Question 6

The creation of a successful team rarely happens by chance.

0 8

Identify and explain Carron's antecedents (factors) that contribute to the cohesiveness of a group. *(3 marks)*

Fiedler suggested that the preferred style of leadership depends on the favourableness of the situation.

0 9

Outline the characteristics of a favourable situation **and** name the style of leadership that should be used when this occurs. *(4 marks)*

**Question 7**

Different methods of assessment can be used to measure anxiety levels and also to identify potential elite performers.

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 What are the disadvantages of using observation as a method to assess anxiety?  
(3 marks)
- |   |   |
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 Discuss the suggestion that personality questionnaires can be an effective predictor of performance.  
(4 marks)

**Question 8**

Effective captains use a variety of methods to motivate their teams.

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| 1 | 2 |
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 Explain the characteristics of effective goal setting.  
(3 marks)
- |   |   |
|---|---|
| 1 | 3 |
|---|---|

 How would a captain use knowledge of self-serving bias to motivate their team?  
(4 marks)

**Turn over for the next section**

**Turn over ►**

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**Section C**

Answer **three** questions.

Answer Question 9 **and** any two from Question 10, Question 11 **or** Question 12.

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**Question 9**

The majority of spectators attend major sporting events with the expectation of observing a high standard of performance in a safe environment.

1	4
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Outline the possible causes of spectator violence, such as hooliganism, at sporting events **and** explain how the law aims to protect spectators. *(14 marks)*

**Question 10**

Many of the sporting values and technical developments that underpin modern sport were established in the 19th century.

1	5
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How might a performer break the contract to compete during a sporting contest? *(3 marks)*

1	6
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Explain the social factors that contributed to the emergence of mass spectator sport in the 19th century. *(4 marks)*

**Question 11**

UK Sport coordinates a talent identification programme to help achieve its aim of developing elite performers.

1	7
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What are the characteristics of an effective talent identification programme? *(3 marks)*

1	8
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Explain other strategies that UK Sport has implemented to develop elite performers. *(4 marks)*

**Question 12**

Sponsorship and commercialisation are an integral part of elite sport.

1	9
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Discuss the suggestion that sponsorship and commercialisation have improved the nature of the sporting experience for the spectator. *(7 marks)*

**END OF QUESTIONS**

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Figure 3: © Timothy A. Clary/Getty Images

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