



General Certificate of Education  
Advanced Level Examination  
June 2014

## Physical Education

## PHED3

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

Monday 9 June 2014 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 **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 Question 1, Question 5 and Question 9, 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: Applied Physiology to Optimise Performance

Answer **three** questions.

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

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### Question 1

At the London 2012 Olympic Games, Team GB won 65 medals, including 29 gold medals.

In order to maximise the chance of success, the performers had to follow a structured training programme and may have used sports supplements during their preparation.

0 | 1

Explain how a performer may have used periodisation **and** discuss the role and effectiveness of the supplements protein, creatine and caffeine.

[14 marks]

### Question 2

During physical activity, sport performers exert large forces, which may cause injury.

0 | 2

Identify **one** vertical force **and one** horizontal force acting on a performer when running in a 100 metre sprint.

[1 mark]

0 | 3

Sketch **two** vector diagrams representing the differing resultant forces for a long jumper **and** for a high jumper during take-off.

[3 marks]

To minimise the risk of injury during training and competition, a performer will complete a warm-up, cool down and ensure that the correct clothing and equipment are used.

0 | 4

What other precautions can be taken to prevent injury occurring?

[3 marks]

### Question 3

Elite performers have to develop their aerobic system and tolerance to lactic acid.

0 | 5

Outline the stages **and** function of the Krebs cycle.

[3 marks]

0 | 6

Explain the factors that affect the rate of lactate accumulation.

[4 marks]

**Question 4**

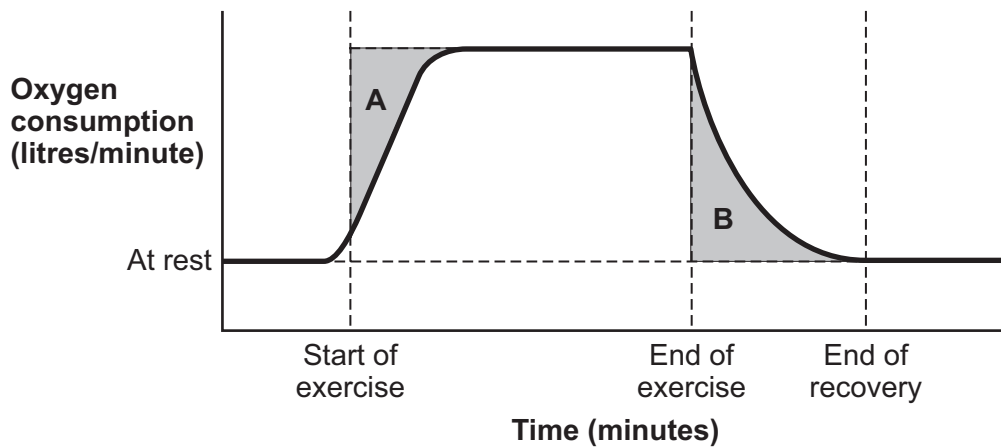
Performers have to improve the capacity of the appropriate muscle fibres for their sport and to recover as quickly as possible following exercise.

**0 7**

Name the muscle fibre type in use during an endurance race **and** identify the physiological characteristics that allow these muscle fibres to work for an extended period of time.

**[3 marks]**

**Figure 1** shows the volume of oxygen used during a training session and the recovery process.

**Figure 1****0 8**

Identify **and** explain what is happening at **A** and at **B** in **Figure 1**.

**[4 marks]**

**Turn over for the next section**

**Turn over ►**

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## Section B: Psychological Aspects that Optimise Performance

Answer **three** questions.

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

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### Question 5

In 2012, Bradley Wiggins became the first British cyclist to win the Tour de France and the Olympic Time Trial gold medal.

Before the Olympic race, when asked about his chances, Wiggins said “I’ve got so much confidence. The confidence is sky high. The main thing is that I’m on track and that’s all that matters. There’s no reason why it’s going to suddenly fall apart.”

0 | 9

Using Bandura’s Model, explain the factors which may contribute to a performer’s level of self-efficacy **and** suggest strategies that can be used to develop high levels of self-efficacy.

[14 marks]

### Question 6

Elite performers must control their arousal levels in high pressure sporting situations, often in front of large audiences.

The inverted U theory suggests that performers have an optimal level of arousal.

1 | 0

Explain the factors that may influence different optimal levels of arousal.

[3 marks]

1 | 1

Explain the term evaluation apprehension **and** describe a named cognitive stress management technique used to improve performance levels.

[4 marks]

### Question 7

Many sporting organisations attempt to identify potential elite athletes and help them to develop a positive attitude to training and competition.

1 | 2

Explain the term attitude **and** suggest how attitudes are formed.

[3 marks]

1 | 3

Discuss the suggestion that Morgan’s Profile of Mood States is an effective method of identifying potential elite performers.

[4 marks]

**Question 8**

Successful teams have to work together to maximise their chance of winning.

Tuckman suggested that there are four stages of group formation.

1	4
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 Name **and** explain the second and third stages of group formation. **[2 marks]**

1	5
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 Explain how faulty processes can have a negative impact on group productivity. **[5 marks]**

**Turn over for the next section**

**Turn over ►**

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### Section C: Evaluating Contemporary Influences

Answer **three** questions.

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

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#### Question 9

Elite sport involves trying to find the true physical potential of human beings.

In 2013, American cyclist, Lance Armstrong, was found guilty of doping and was stripped of his seven Tour de France titles.

1	6
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Discuss the suggestion that doping is necessary at elite level **and** outline the strategies sporting organisations use to limit the use of banned substances by performers.

**[14 marks]**

#### Question 10

UK Sport aims to attract major international sporting events and World Games to the United Kingdom.

1	7
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Identify **five** characteristics of a World Games.

**[3 marks]**

One of the key slogans of the London 2012 Olympic Games was 'Inspire a Generation'.

1	8
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Suggest reasons why not all sports or groups of performers, such as women, will benefit from success at the Olympic Games.

**[4 marks]**

**Question 11**

To maximise the chance of success, funding is required to support the development of elite level performers.

**1 | 9**

Explain how the middle classes supported the developments in sport during the 19th century.

**[3 marks]**

UK Sport will distribute over £350 million of funding to selected sports.

**Table 1** illustrates the funding allocation to different sports in the lead-up to the Rio 2016 Olympic Games in Brazil.

**Table 1**

Sport	Funding for London 2012 Olympic Games	Funding for Rio 2016 Olympic Games	Change of funding
Gymnastics	£ 10 770 600	£ 14 465 428	Increase
Rowing	£ 27 287 600	£ 32 622 862	Increase
Swimming	£ 25 144 600	£ 21 352 191	Decrease
Volleyball	£ 3 536 077	£ 386 753	Decrease
Handball	£ 2 924 721	No funding	Decrease

**2 | 0**

Discuss the suggestion that funding should be equal for all sports and not based on performance at major championships.

**[4 marks]****Question 12**

Sponsors and the media pay huge sums of money to be linked to elite performers and to cover major sporting events.

In 2012, the golfer Rory McIlroy signed a 10 year sponsorship contract with the sports company Nike, reported to be worth over £150 million.

**2 | 1**

Explain the reasons for companies investing such large sums of money in sport.

**[3 marks]**

Sky Broadcasting and BT currently pay £3.2 billion for the media rights of Barclay's Premier League.

**2 | 2**

Outline the disadvantages to a sport of increased media control.

**[4 marks]****END OF QUESTIONS**

**There are no questions printed on this page**