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| Centre Number       |  |  |  |  |  | Candidate Number |  |  |  |  |
| Surname             |  |  |  |  |  |                  |  |  |  |  |
| Other Names         |  |  |  |  |  |                  |  |  |  |  |
| Candidate Signature |  |  |  |  |  |                  |  |  |  |  |

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| For Examiner's Use  |      |
| Examiner's Initials |      |
| Question            | Mark |
| 1                   |      |
| 2                   |      |
| 3                   |      |
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| 7                   |      |
| TOTAL               |      |



General Certificate of Education  
Advanced Subsidiary Examination  
June 2012

# Physical Education

# PHED1

## Unit 1 Opportunities for and the Effects of Leading a Healthy and Active Lifestyle

Thursday 31 May 2012 9.00 am to 11.00 am

You will need no other materials.

### Time allowed

- 2 hours

### Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

### Information

- The marks for part questions are shown in brackets.
- The maximum mark for this paper is 84.
- In **Section B**, you should answer in continuous prose.
- In **Section B**, you will be marked on your ability to:
  - use good English
  - organise information clearly
  - use specialist vocabulary where appropriate.



J U N 1 2 P H E D 1 0 1

**Section A**

Answer **all** questions in the spaces provided.

There are 12 marks for each question.

**Applied Exercise Physiology**

**1** Many people play tennis as a way of improving their fitness.

**1 (a) (i)** Explain the difference between the terms health and fitness.

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*(1 mark)*

**1 (a) (ii)** Explain how the health of a performer may affect their fitness.

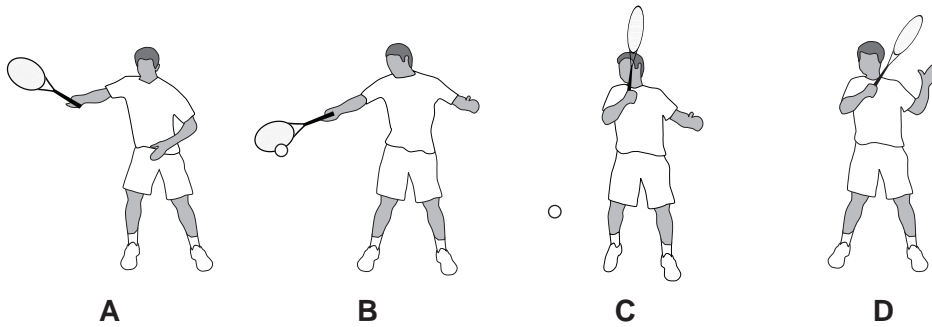
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*(2 marks)*



1 (b) Figure 1 shows a tennis player performing a forehand stroke.

Figure 1



Using Figure 1, complete Table 1 to identify the main agonist and the joint action that occurs at the joints during the forehand stroke.

Table 1

| Movement description       | Main agonist | Joint action |
|----------------------------|--------------|--------------|
| Shoulder joint from A to C |              |              |
| Elbow joint from B to D    |              |              |

(4 marks)

1 (c) During a game of tennis, a player's breathing rate may vary.

Explain how increases in levels of carbon dioxide and acidity in the blood cause breathing rate to rise.

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(3 marks)

Turn over ►



1 (d) Breathing rate increases to get more oxygen into the blood. Gaseous exchange involves oxygen diffusing across membranes.

Identify the membranes involved in this diffusion **and** identify **one** characteristic of these membranes that allows diffusion to happen.

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(2 marks)

12

2 The different types of events in athletics require different components of fitness.

2 (a) (i) Name **two** components of skill-related fitness required by a 400 metre hurdler.

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(1 mark)

2 (a) (ii) Name **two** components of health-related fitness required by a shot putter.

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(1 mark)

2 (b) As the 400 metre hurdler's blood flows around his body, its pressure and velocity changes, as shown in **Table 2**.

**Table 2**

|                        | <b>Pressure</b> | <b>Velocity</b> |
|------------------------|-----------------|-----------------|
| Blood vessels <b>A</b> | High            | High            |
| Blood vessels <b>B</b> | Low             | Low             |
| Blood vessels <b>C</b> | Low             | Medium          |

2 (b) (i) Which of the blood vessels in **Table 2**, **A**, **B** or **C**, represents veins?

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(1 mark)



**2 (b) (ii)** State **three** characteristics or functions of arteries.

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*(3 marks)*

**2 (c) (i)** Where is myoglobin found in the body **and** what is its role during exercise?

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*(2 marks)*

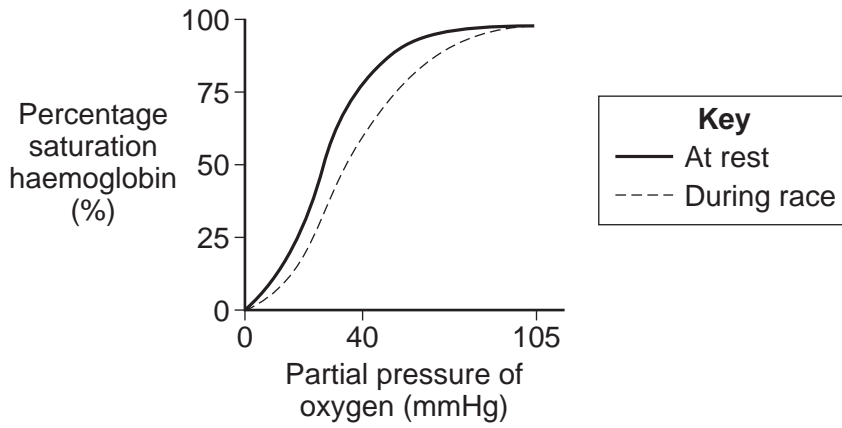
**Question 2 continues on the next page**

**Turn over ►**



2 (c) (ii) Figure 2 shows the oxyhaemoglobin dissociation curve.

Figure 2



During a 400 metre hurdles race, the curve shifts to the right.

Explain the causes of this change to the curve **and** the effect that this change has on oxygen delivery to the muscles.

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(4 marks)

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**Skill Acquisition**

**3** Players in a team game will use their skills to play effectively.

**3 (a)** Explain how players use their short-term memory to perform skills during a team game.

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*(3 marks)*

**3 (b)** Using examples, explain why different skills in a team game could be classified as:  
open skills .....

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closed skills .....

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*(2 marks)*

**3 (c)** In team games, players often need to move into position quickly.

**3 (c) (i)** Explain the difference between the terms movement time and reaction time.

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*(2 marks)*

**Question 3 continues on the next page**

**Turn over ►**



**3 (c) (ii)** Choice reaction time is far more common in team games than simple reaction time.  
Explain this statement.

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(2 marks)

**3 (c) (iii)** What can games players do to improve their response time?

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(3 marks)

**4 (a)** What are the characteristics of a skilled performance?

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(3 marks)

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**4 (b)** Coaches will encourage performers to practise skills so that the skills can transfer to the competitive situation.

Describe what is meant by the term transfer of learning **and** explain **two** different forms that transfer can take.

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*(3 marks)*

**4 (c) (i)** When teaching new skills, coaches often implement the principles of Schmidt's Schema Theory.

Explain the functions of recognition schema.

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*(4 marks)*

**4 (c) (ii)** What implications does Schmidt's Schema Theory have for the way in which sports skills should be taught?

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*(2 marks)*

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Turn over ►



**Opportunities for Participation**

**5** Recreation, play and sport are important features of British society.

**5 (a)** What are the similarities **and** the differences between recreation and play?

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*(4 marks)*

**5 (b)** Provision for recreation may be through the voluntary sector, public sector or private sector.

**5 (b) (i)** What are the characteristics of public sector provision?

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*(3 marks)*



**5 (b) (ii)** The government introduced the 'best value' policy in an attempt to improve recreational and sport provision.

Outline the main features of the 'best value' policy.

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(2 marks)

**5 (c)** How could public sector provision encourage increased participation for those in lower socio-economic groups?

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(3 marks)

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**Turn over for the next question**

**Turn over ►**



**6** Sport has remained a major recreational activity in the UK since the 19th century.

**6 (a)** The majority of sports were rationalised in the 19th century.

**6 (a) (i)** What is meant by the term rational recreation?

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*(3 marks)*

**6 (a) (ii)** Why were the majority of sports rationalised in the 19th century?

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*(3 marks)*



**6 (b)** There is a lower rate of participation in certain sporting activities by ethnic minority groups in the UK.

Discuss the suggestion that solutions to overcome discrimination in sport in order to increase participation have been effective.

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(6 marks)

12

**Turn over for the next section**

**Turn over ▶**



**Section B**

Answer this question. There are 12 marks for this question.

In order to maximise your marks, you are advised to give equal weighting to all areas of the question.

**7**

You have been asked to work with a group of AS level physical education students to improve their fitness and skill levels.

Describe the different types of stretching that can be used **and** how to complete them safely.

Explain the factors that need to be considered before deciding whether it would be an advantage to teach a skill by whole practice.

*You may use this space to plan your answer.*

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Turn over ►



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(12 marks)

**END OF QUESTIONS**

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| <b>12</b> |



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ANSWER IN THE SPACES PROVIDED**



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