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# A-level Physical Education

Paper 1 Factors affecting participation in physical activity and sport

Monday 11 June 2018

Morning

Time allowed: 2 hours

## Materials

For this paper you may have:

- a calculator.

## 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 on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

For Examiner's Use	
Section	Mark
A	
B	
C	
<b>TOTAL</b>	

## Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 105.
- Questions should be answered in continuous prose. You will be assessed on your ability to:
  - use good English
  - organise information clearly
  - use specialist vocabulary where appropriate.



**Section A****Applied anatomy and physiology**Answer **all** questions in this section.Only **one** answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown.



If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.

**0 1**

Which receptor is responsible for detecting a change in blood pressure?

**[1 mark]****A** Baroreceptor**B** Chemoreceptor**C** Proprioceptor**0 2**Which method of estimating energy expenditure involves measuring the production of CO<sub>2</sub> and/or the consumption of O<sub>2</sub>?**[1 mark]****A** Indirect calorimetry**B** Lactate sampling**C** VO<sub>2</sub> max test

0 3

**Table 1** shows the oxygen content of arterial and venous blood at rest and during intense aerobic exercise.

**Table 1**

	Rest		Intense aerobic exercise	
	Arterial blood	Venous blood	Arterial blood	Venous blood
ml O <sub>2</sub> /100 ml blood	20	15	20	5

0 3

1

Define the term A-VO<sub>2</sub> diff.

**[1 mark]**


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0 3

2

Explain the change in A-VO<sub>2</sub> diff during exercise. Use the data in **Table 1** in your answer.

**[3 marks]**


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**Turn over for the next question**

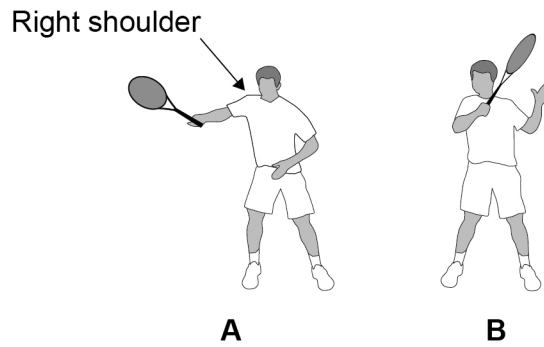
**Turn over ►**



0 4

**Figure 1** below shows a tennis player performing a forehand stroke.

**Figure 1**



0 4 . 1

Identify the main agonist, and plane and axis of movement at the right shoulder as the tennis player in **Figure 1** moves from position **A** to position **B**.

**[3 marks]**

Agonist: \_\_\_\_\_

Plane: \_\_\_\_\_

Axis: \_\_\_\_\_

0 4 . 2

In **Figure 1**, the main muscle fibre type used for a powerful forehand stroke is fast glycolytic (type IIx).

State **three** characteristics of this muscle fibre type.

**[3 marks]**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_



**Turn over for the next question**

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ANSWER IN THE SPACES PROVIDED**

**Turn over ►**



0 5

**Figure 2** shows Chris Froome. He is a British cyclist and multiple Tour de France winner.

In 2015 he recorded a  $VO_2$  max score of 84.6 ml/kg/min. An average cyclist would have a  $VO_2$  max score of 40–42 ml/kg/min.

**Figure 2**



Analyse the factors which explain Chris Froome's higher  $VO_2$  max **and** the effects these factors have on his performance.

**[8 marks]**

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0 6

Proprioceptive Neuromuscular Facilitation (PNF) is a specialist training method used by a range of athletes.

Explain the role of proprioceptors in PNF **and** evaluate its effectiveness as a specialist training method.

Use sporting examples in your answer.

**[15 marks]**

You may use this space to plan your answer.

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**Section B****Skill acquisition**

Answer **all** questions in this section.

**0 7**

Baddeley and Hitch devised a model of the working memory.

Which subsystem in this model deals with auditory information from the senses to help produce a memory trace?

**[1 mark]**

**A** Episodic buffer

**B** Phonological loop

**C** Visuospatial sketchpad

**0 8**

Which types of feedback would be most appropriate for a performer in the cognitive stage of learning?

**[1 mark]**

**A** Knowledge of performance, negative, intrinsic

**B** Knowledge of performance, positive, extrinsic

**C** Knowledge of results, negative, intrinsic

**D** Knowledge of results, positive, extrinsic

**0 9**

Performers need to learn skills in order to take part in physical activity. Skilled movements are learned, economic and consistently successful.

State **three** other characteristics of skill.

**[3 marks]**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_



1 0

Vygotsky's Social Development Theory is a constructivist theory. Learning is built up in stages based on the current level of performance.

Outline the **three** stages of development in this theory.

Give a sporting example for each stage.

**[3 marks]**

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1 1

'Verbal guidance is a suitable way of introducing a new skill to a cognitive learner.'

Discuss this statement.

**[4 marks]**

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Turn over ►



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Goalkeepers in hockey need to respond quickly to the actions of the attacking players.

Analyse the factors which will affect a goalkeeper's response time **and** the strategies a coach can use to help them respond quicker.

[8 marks]

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**1 3**

Skill classification can be used to place skills onto a range of continua including:

- Simple – Complex
- Discrete – Serial – Continuous
- Self-paced – Externally paced
- High Organisation – Low Organisation.

'Progressive part practice is suitable for developing a tumbling routine in gymnastics.'

Evaluate this statement, using your knowledge of the continua listed above.

**[15 marks]**

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**Turn over ►**





**Section C****Sport and society**Answer **all** questions in this section.**1 4**

Which of these is a characteristic of the popular recreation available to the lower class in pre-industrial Britain?

**[1 mark]****A** Local and specific to each community**B** Regular**C** Rule based**D** Skill and tactics based**1 5**

Ethnic minorities may be pushed into certain sports, based on assumptions about them.

What is this an example of?

**[1 mark]****A** Channelling**B** Racism**C** Stacking**D** Stereotyping**1 6**State **two** social benefits to an individual of increasing their participation in physical activity and/or sport.**[2 marks]**

1. \_\_\_\_\_

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2. \_\_\_\_\_

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**Turn over ►**

1 7

Explain **two** benefits of sponsorship to companies investing large amounts of money into sport.

[4 marks]

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2. \_\_\_\_\_

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1 8

Rational recreation saw the development of early professionalism during the industrial and post-industrial era (1780–1900).

Explain the differences between the gentleman amateur and working-class professional **and** the impact these had on their participation during this time.

[4 marks]

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**1 9**

Lauren is a 22-year-old member of a local athletics club and has regularly competed in middle distance races since an early age.

Evaluate the impact that socialisation could have had on Lauren’s choices and her current involvement in sport.

**[8 marks]**

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**Table 2** shows the participation data for disabled and non-disabled adults over a 4-year period since the London 2012 Olympic and Paralympic Games.

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**Table 2**

<b>% participating in 30 minutes of moderate intensity activity at least once per week</b>		
	<b>Non-disabled</b>	<b>Disabled</b>
<b>2012–2013</b>	40.1	19.1
<b>2013–2014</b>	39.8	17.6
<b>2014–2015</b>	39.6	17.2
<b>2015–2016</b>	39.9	16.8

Explain the barriers that disabled athletes face **and** evaluate the effectiveness of the strategies used to overcome these barriers.

Use the data in **Table 2** to support your answer.

**[15 marks]**

You may use this space to plan your answer.

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**END OF QUESTIONS**

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