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# A-level Physical Education

Paper 2 Factors affecting optimal performance in physical activity  
and sport

Friday 15 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.

## 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.

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



## Section A

## Exercise physiology and biomechanics



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 **one** of these measurements is a scalar quantity?

[1 mark]

A Displacement

B Mass

C Velocity

D Weight

0 2

A player has overstretched the ligaments in their ankle.

Identify this type of acute injury.

[1 mark]

A Dislocation

B Fracture

C Sprain

D Strain



0 3

**Figure 1** shows an athlete performing the long jump.

**Figure 1**



0 3 . 1

Identify **and** explain **two** external forces acting on the athlete in **Figure 1**.

**[4 marks]**

Force 1 \_\_\_\_\_

\_\_\_\_\_

Force 2 \_\_\_\_\_

\_\_\_\_\_

0 3 . 2

In **Figure 1** a third-class lever is operating at the hip to allow flexion.

Explain the mechanical advantage of the third-class lever operating at the hip for the athlete.

**[2 marks]**

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Turn over ►



**0 3 . 3** Stretching is an important part of a warm up.

What is ballistic stretching?

[1 mark]

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**0 3 . 4** Discuss the suitability of ballistic stretching for the athlete in **Figure 1**.

[3 marks]

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**0 4** An elite weight lifter is taking part in a strength-training programme to improve performance in the next competition. As part of the programme, the weight lifter is considering taking creatine and anabolic steroids in addition to weight training.

Evaluate the use of creatine **and** anabolic steroids to improve the weight lifter's performance in the next competition.

[8 marks]

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0 5

Figure 2 shows Laura Kenny cycling at the Rio 2016 Olympics.

Figure 2



Analyse how Laura Kenny has maximised her speed in **Figure 2**. Use Bernoulli's principle of lift **and** knowledge of the factors that influence drag.

[15 marks]

You may use this space to plan your answer.

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**35**





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## Section B

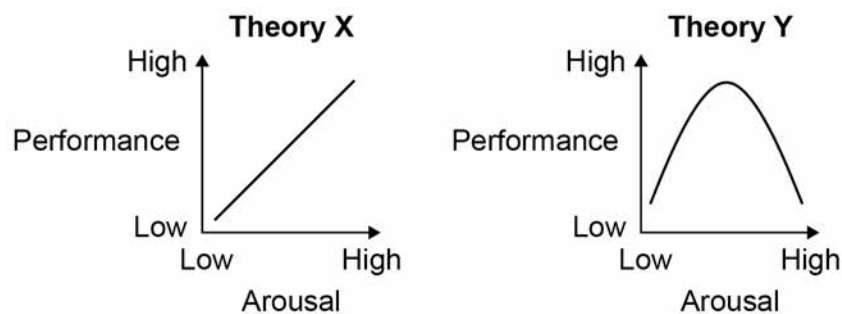
## Sports psychology

Answer **all** questions in this section.

0 6

**Figure 3** shows the relationship between arousal and performance for two different theories of arousal **X** and **Y**.

Figure 3



Identify theories **X** and **Y**.

[1 mark]

- A** X: Catastrophe theory Y: Drive theory
- B** X: Catastrophe theory Y: Inverted U theory
- C** X: Drive theory Y: Inverted U theory
- D** X: Drive theory Y: Catastrophe theory

0 7

Which of these statements describes social inhibition?

[1 mark]

- A** The facilitated effect of the presence of others on performance
- B** The negative effect of the presence of others on performance
- C** The positive effect of the presence of others on performance
- D** The potential effect of the presence of others on performance



**0 8**

A performer with a 'need to achieve' (Nach) personality often demonstrates approach behaviour.

**0 8 . 1**

Identify **three** other characteristics of an individual with a need to achieve (Nach) personality.

**[3 marks]**

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

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

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

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**0 8 . 2**

Identify **and** describe **one** strategy a coach could use to develop approach behaviour. Use a sporting example to support your answer.

**[3 marks]**

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**0 9 . 1**

Outline the autocratic **and** laissez-faire styles of leadership.

**[2 marks]**

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**Turn over ►**

0 9 . 2

Explain when a coach would use the autocratic **and** laissez-faire styles in a sporting context.

[2 marks]

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1 0

**Figure 4** shows a rugby player preparing to kick a conversion during an important game.

**Figure 4**



The player is having negative thoughts about the kick. He is also experiencing increased heart rate and muscular tension.

Evaluate the use of visualisation **and** centering by the rugby player to ensure the kick is successful.

[8 marks]

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1 1

Mo Farah is a four-time Olympic gold medallist. Before the 10 000m race at the 2017 World Championships, he said:

“I know I am the man to beat but that gives me confidence. I can’t wait to get on that track – bring it on!”

Analyse Mo Farah’s statement using Bandura’s model of self-efficacy **and** Vealey’s model of self-confidence.

**[15 marks]**

You may use this space to plan your answer.

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**Section C****Sport and society and technology in sport**Answer **all** questions in this section.**1 2**Which **one** of these statements describes amateurism?**[1 mark]**

- A** A fanatical devotion to sport involving high levels of physical endeavour and moral integrity
- B** Bending the rules and stretching them to their absolute limit without getting caught
- C** Conforming to the rules, spirit and etiquette of a sport
- D** Participation in sport for the love of it, receiving no financial gain

**1 3**

There are personal, social and cultural factors required to support the progression from talent identification to elite performance.

Which of the following are personal factors only?

**[1 mark]**

- A** Commitment, determination, high levels of fitness
- B** Equal opportunities, self-discipline, structured levels of competition
- C** High levels of fitness, media coverage of sport, natural talent
- D** Media coverage of sport, motivation, natural talent





1 4

Identify **three** characteristics of physical recreation.

**[3 marks]**

- 1. \_\_\_\_\_  
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- 2. \_\_\_\_\_  
\_\_\_\_\_
- 3. \_\_\_\_\_  
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1 5

Coaches legally have to demonstrate a duty of care by reducing potential risks and dangers for players.

Outline how coaches can demonstrate a duty of care.

**[3 marks]**

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1 6

Discuss the impact of commercialisation on officials.

[4 marks]

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1 7

GPS technology is becoming more popular with sports teams to analyse players' movements in training and during games.

Evaluate the use of GPS technology and the data it provides.

[8 marks]

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1 8

**Table 1** shows the number of red cards awarded in the Football Premier League each season. Red cards can be given for aggressive acts.

**Table 1**

Season	Number of red cards
2013/2014	73
2014/2015	58
2015/2016	45
2016/2017	41

Instinct theory and the frustration-aggression hypothesis are psychological theories relating to aggression in sport.

Use these theories to analyse why aggressive acts still exist in football **and** evaluate the effectiveness of strategies used to prevent player violence.

**[15 marks]**

You may use this space to plan your answer.

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