

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

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Forename(s)

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Candidate signature

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I declare this is my own work.

# A-level PHYSICAL EDUCATION

## Paper 2 Factors affecting optimal performance in physical activity and sport

Thursday 8 June 2023

Morning

Time allowed: 2 hours

### Materials

For this paper you may use:

- 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.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- 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

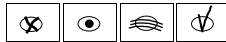
Answer **all** questions in this section.Only **one** answer per question is allowed.

For each question 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 the following dietary supplements will improve the mobilisation of fatty acids in the body?

[1 mark]

A Caffeine

B Creatine

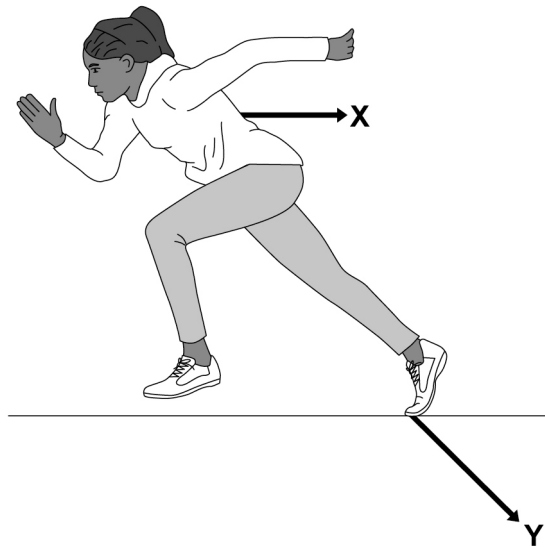
C Sodium bicarbonate



0 2

**Figure 1** shows a sprinter during a training session.

**Figure 1**



Identify the forces labelled **X** and **Y** in **Figure 1**.

[1 mark]

- |                            |                            |                          |
|----------------------------|----------------------------|--------------------------|
| <b>A</b> X: Air resistance | Y: Ground reaction force   | <input type="checkbox"/> |
| <b>B</b> X: Air resistance | Y: Internal-muscular force | <input type="checkbox"/> |
| <b>C</b> X: Weight         | Y: Ground reaction force   | <input type="checkbox"/> |
| <b>D</b> X: Weight         | Y: Internal-muscular force | <input type="checkbox"/> |

**Turn over for the next question**

**Turn over ►**



0 3

The phases of the training season are preparation, competition, and transition.

Describe the main focus of training in **each** of these phases.

**[3 marks]**

Preparation \_\_\_\_\_

\_\_\_\_\_

Competition \_\_\_\_\_

\_\_\_\_\_

Transition \_\_\_\_\_

\_\_\_\_\_

0 4

Give three sporting examples of how a swimmer can reduce drag during a race.

**[3 marks]**

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

3 \_\_\_\_\_

\_\_\_\_\_



0 5

Newton's laws of linear motion can be adjusted to explain the movement of rotating bodies, known as angular motion.

0 5 . 1

State Newton's first law of angular motion.

[1 mark]

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0 5 . 2

Figure 2 shows a figure skater rotating in the air during a jump.

Figure 2



Analyse how Newton's laws of angular motion can account for the figure skater's speed of rotation throughout the movement.

[3 marks]

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Turn over ►



















**Section B****Sport psychology**

Answer **all** questions in this section.

**0 8**

'The belief in your ability to master a specific sporting situation.'

Which term is described in this statement?

**[1 mark]**

- A** Self-confidence
- B** Self-efficacy
- C** Self-esteem

**0 9**

Zajonc classified 'others present in sport' into four categories.

While participating in badminton there are players involved in a match on the court next to yours.

Which **one** of these categories would these players be placed in?

**[1 mark]**

- A** Audience
- B** Co-actor
- C** Competitive co-actor
- D** Social reinforcer

**Turn over for the next question**

**Turn over ►**

**1 0 . 1** Define the term 'attribution'.

**[1 mark]**

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**1 0 . 2** Describe the link between attribution and task persistence when an athlete encounters:

- success
- failure.

**[2 marks]**

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**1 1 . 1** Outline Steiner's model of group productivity.

**[1 mark]**

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**1 1 . 2** Explain how Steiner's model accounts for a team winning against a significantly higher-ranked opponent.

**[3 marks]**

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1	2
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Evaluate the effectiveness of using questionnaires to measure the anxiety levels of all the players in a rugby squad.

**[3 marks]**

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**Turn over for the next question**

**Turn over ►**



















## Section C

## Sport and society and technology in sport

Answer **all** questions in this section.

1 5

Which set of characteristics **all** apply to physical education?

[1 mark]

A Competitive, fun, voluntary B Compulsory, formal, pre-planned C Flexible, highly skilled, serious D Informal, tactical, self-officiated 

1 6

Which **one** of the following is the definition of negative deviance?

[1 mark]

A Behaviour that goes against norms and has a detrimental effect on sport B Bending the rules to gain an advantage C Conforming to the rules, spirit and etiquette of sport D Over-conformity to the norms and expectations of sport 

1 7

Outline **three** ways that National Institutes of Sport can help to improve the performance of an athlete.

[3 marks]

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

3 \_\_\_\_\_

\_\_\_\_\_

Turn over ►



1 8

Explain **three** situations where a footballer would be protected by sports legislation.**[3 marks]**1 \_\_\_\_\_  
\_\_\_\_\_2 \_\_\_\_\_  
\_\_\_\_\_3 \_\_\_\_\_  
\_\_\_\_\_

1 9

Drug taking in elite sport is an increasing problem as elite athletes seek to gain an advantage over their opponents.

1 9

. 1

State **one psychological** reason why performers might use illegal drugs and doping methods to aid performance.**[1 mark]**\_\_\_\_\_  
\_\_\_\_\_

1 9

. 2

Analyse how the physiological effects of each of the following drugs can improve performance in the named sports:

- erythropoietin (EPO) taken by a road cyclist
- anabolic steroids taken by a boxer
- beta blockers taken by a golfer.

**[3 marks]**Erythropoietin (EPO) taken by a road cyclist \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_Anabolic steroids taken by a boxer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_Beta blockers taken by a golfer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



2 0

**Table 1** shows the percentage of people with disabilities who were considered inactive over a 4 year period according to Sport England's Active People Survey.

Inactivity is defined as taking part in less than 30 minutes of sport or physical activity each week.

**[8 marks]****Table 1**

Year	Inactivity rate (%)
2015–2016	43.3
2016–2017	43.4
2017–2018	42.0
2018–2019	39.8

Evaluate the impact that the development of new technology and equipment has had on enabling people with disabilities to overcome barriers to participation.

Refer to the data in **Table 1** in your answer.

You may use this space to plan your answer.

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**Turn over ►**













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3 6



2 3 6 A 7 5 8 2 / 2

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