

# A-level PHYSICAL EDUCATION

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

Additional specimen

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 bottom 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.

Please write clearly, in block capitals, to allow character computer recognition.

Centre number  Candidate number

Surname

Forename(s)

Candidate signature \_\_\_\_\_

---

**Section A****Exercise physiology and biomechanics**Answer **all** questions in this section.

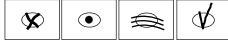
---

For the multiple-choice questions, completely fill in the circle alongside the appropriate answer(s).

CORRECT METHOD



WRONG METHODS

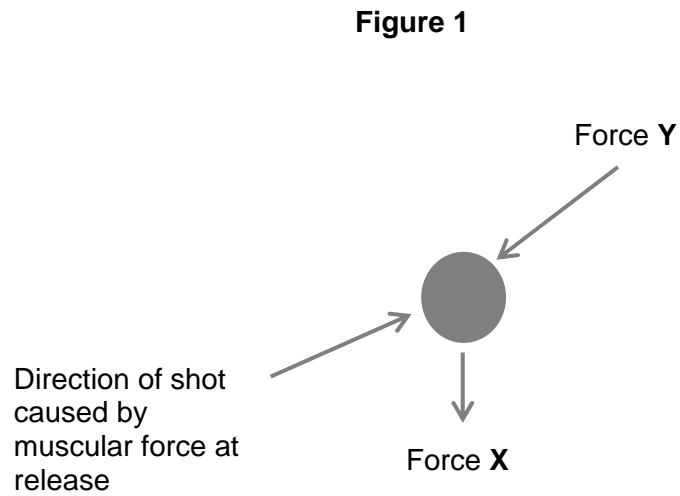


If you want to change your answer you must cross out your original answer as shown.

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 equations is used to calculate momentum?**A** Displacement  $\div$  time**B** (Final velocity – initial velocity)  $\div$  time**C** Mass  $\times$  acceleration**D** Mass  $\times$  velocity**[1 mark]**

---

**0 2****Figure 1** shows the forces affecting a shot put during flight.Identify forces **X** and **Y** in **Figure 1**.

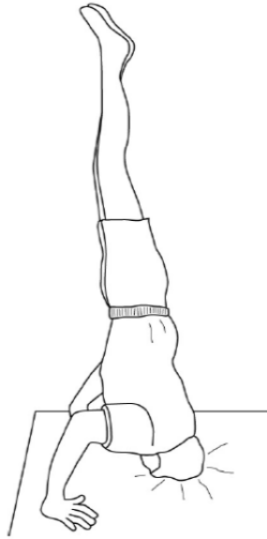
- A** X: air resistance      Y: weight
- B** X: friction            Y: gravity
- C** X: weight              Y: air resistance

**[1 mark]****Turn over for the next question**

0	3
---	---

**Figure 2** shows a gymnast holding a headstand.

**Figure 2**



State **two** factors that affect the stability of a gymnast holding a headstand.

**[2 marks]**

1.

2.

**0 4**

During a training programme to prepare for a marathon, endurance athletes will often supplement their diets to optimise performance.

**0 4** . **1**

Explain why a marathon runner may 'glycogen load' in the days leading up to a race. **[3 marks]**

---

---

---

---

---

---

---

**0 4** . **2**

Evaluate the appropriateness of a marathon runner using an ice bath as a recovery method during their training programme. **[4 marks]**

---

---

---

---

---

---

---

---

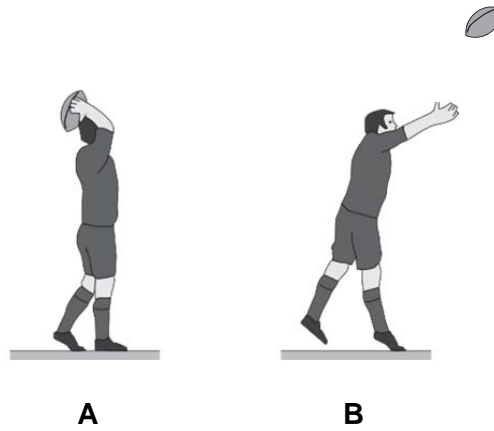
---

**Turn over for the next question**

0	5
---	---

**Figure 3** shows a rugby player throwing the ball into play during a lineout.

**Figure 3**



Name, sketch and label the lever system operating at the elbow as the player in **Figure 3** moves from position **A** to position **B**.

[1 mark]

Lever system:

---

---

---

0	6
---	---

Evaluate the appropriateness of fartlek training and weight training for a games player in a named sport of your choice.

**[8 marks]**

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Extra space

---

---

---

---

---

---

---

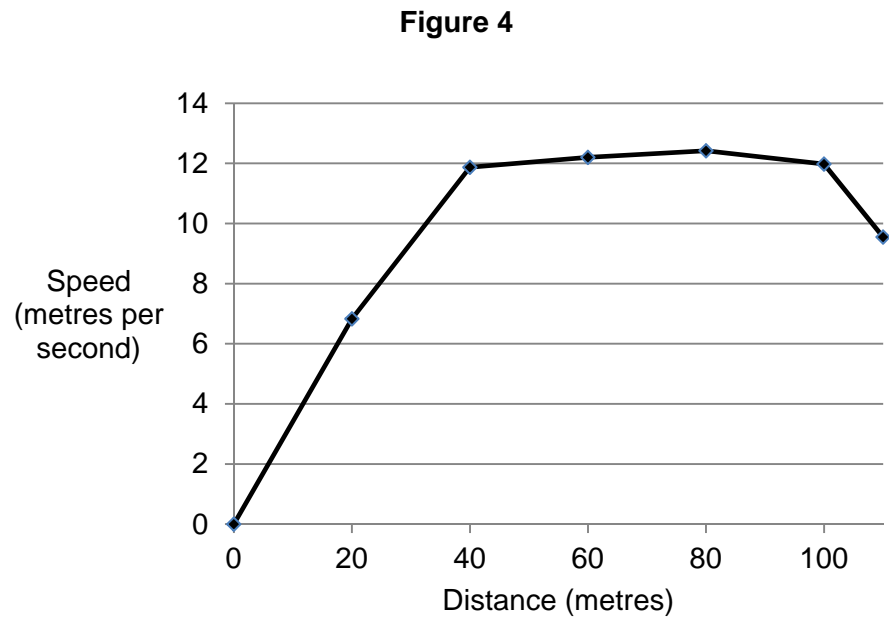
---

---

---

0 7

**Figure 4** shows the speed of a sprinter completing a 100m race.



Analyse **Figure 4** and suggest what impulse would be produced by the sprinter when:

- they leave the blocks to start the race
- they are running (between 40m and 80m)
- they finish the race (between 100m and 110m).

Justify your answers.

[15 marks]

You may use this space to plan your answer.





---

**Section B****Sports psychology**Answer **all** questions in this section.

---

**0 8**Which **one** of these is **not** a characteristic of a democratic leader?

- A** Asks for little or no feedback
- B** Includes members of the group in decision making
- C** May look for consensus via a vote
- D** Values innovative ideas from others

**[1 mark]****0 9**Which **one** of these could act as extrinsic motivation for a long jumper?

- A** Feeling of pride at the length of the jump recorded
- B** Gaining a medal for winning a long jump event
- C** Improved social status within the athletics club
- D** Performing the long jump for enjoyment

**[1 mark]**

---

1 0

During a basketball training session, a coach hears one of the performers saying:

“I just can’t do lay-up shots anymore”.

Suggest how the basketball player is likely to respond to the rest of the training session. Refer to learned helplessness in your answer.

**[3 marks]**

---

---

---

---

---

---

---

1 1

Describe how the ‘frustration-aggression hypothesis’ can be used to explain an aggressive act in sport. Use an example in your answer.

**[4 marks]**

---

---

---

---

---

---

---

---

---

---

1 2

A trampoline performer is suffering a drop in self-efficacy, having lost situation specific confidence in his/her ability to perform a somersault effectively.

Evaluate how appropriate it would be for a coach to concentrate on past performance accomplishments by designing tasks to ensure the performer can successfully complete a somersault.

**[3 marks]**

---

---

---

---

---

---

---

1 3

Olympic athletes have to compete in front of large audiences.

Discuss the effect that the presence of spectators can have on performers. Suggest strategies that can be used to limit any potential negative effects.

**[8 marks]**

You may use this space to plan your answer.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

Extra space

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

**Turn over for the next question**



---

---

---

---

---

---

---

---

Extra space

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

**Section C****Sport and society and technology in sport**

Answer **all** questions in this section.

---

**1 | 5**

Satellite based navigation is often carried out using GPS.

What does GPS stand for?

- A** Geographic positioning software
- B** Geographic positioning system
- C** Global positioning software
- D** Global positioning system

**[1 mark]****1 | 6**

Which **one** of these shows the characteristics of both sport and physical recreation?

- A** Competition is compulsory, played in free time, involves being physically active in leisure time
- B** May include competition, can provide stress relief, beneficial use of leisure time
- C** Part of the school curriculum, structured rules, include elements of risk
- D** Played spontaneously, few or no rules, has intrinsic value

**[1 mark]**

---



1 | 7

Explain **two** reasons why a rugby player may become violent during a competitive match.

[2 marks]

---

---

---

---

1 | 8

Explain **two** ways in which analytics may be beneficial for a performer. Use a named game of your choice (eg netball) in your answer.

[2 marks]

---

---

---

---

1 | 9

Discuss how technological advancements, such as Hawkeye at Wimbledon, have increased the viewing experience for the audience.

[5 marks]

---

---

---

---

---

---

---

---

---

---



Extra space

---

---

---

---

---

---

---

---

---

---

---

---

**Turn over for the next question**





**END OF QUESTIONS****There are no questions printed on this page****DO NOT WRITE ON THIS PAGE  
ANSWER IN THE SPACES PROVIDED****Copyright Information**

For confidentiality purposes, from the November 2015 examination series, acknowledgements of third party copyright material will be published in a separate booklet rather than including them on the examination paper or support materials. This booklet is published after each examination series and is available for free download from [www.aqa.org.uk](http://www.aqa.org.uk) after the live examination series

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and AQA will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team, AQA, Stag Hill House, Guildford, GU2 7XJ.