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Sports, exercise and health science
Standard level
Paper 2

29 April 2026

Zone A morning | **Zone B** morning | **Zone C** morning

Session number

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1 hour 30 minutes

Instructions to students

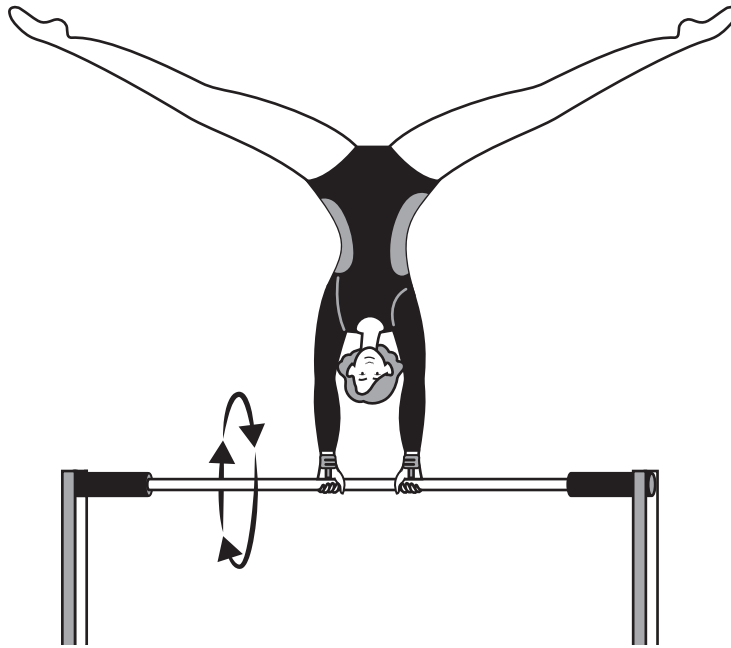
- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Answer all questions.
- Answers must be written within the answer boxes provided.
- A calculator is required for this paper.
- A clean copy of the **SEHS data booklet** is required for this paper.
- The maximum mark for this examination paper is **[50 marks]**.



Answer **all** questions. Answers must be written within the answer boxes provided.

1. A gymnast competing on the uneven bars rotates around one of the bars in a forward motion.

Figure 1: Gymnast on the uneven bars



- (a) State the plane of movement as the gymnast rotates around the bar. [1]

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- (b) The gymnast rotates around one of the bars using the saddle joints and gliding joints. Using examples, describe **three** other types of synovial joint **and** their role in the gymnast's movement. [3]

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(Question 1 continued)

- (c) Chemoreceptors detect chemicals in bodily fluids. Outline **two** other types of receptor **and** an example of their role in supporting a gymnast during a performance. [2]

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- (d) Using the need achievement theory, discuss **three** situational factors coaches can change to encourage a gymnast to approach achievement situations. [3]

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- (e) As female gymnasts age, they can be more susceptible to weakened bones which can lead to injury. Distinguish, with a reason, the risk of weakened bones between female gymnasts and their male teammates. [2]

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2. (a) Suggest **one** way movement analysis supports an athlete’s return to gymnastics after an acute injury. [1]

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- (b) Discuss how the height of a gymnast can affect angular momentum during an uneven bars routine. [4]

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- (c) Using examples, contrast outcome goals and learning-focused goals for a gymnast. [2]

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- (d) During a competition, a gymnast must concentrate and maintain composure under pressure. Suggest **two** ways a gymnast can utilize controlled distraction to support this. [2]

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(Question 2 continued)

- (e) Gymnasts require significant mental toughness to be successful. Evaluate the use of self-reported assessments for measuring mental toughness.

[2]

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- (f) Gymnastics is a sport that emphasizes aesthetic movement. List **two** risk factors for low energy availability (LEA).

[2]

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- (g) Suggest **two** limitations of using ice on a mild ankle sprain.

[2]

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3. **Figure 2** depicts an open water swimmer competing in a 10 km race.

Figure 2: An open water swimmer competing in a race



- (a) Explain how the menstrual cycle may affect thermoregulation in open water swimming during the luteal and follicular phases. [3]

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- (b) Discuss the relationship between arousal and performance in the catastrophe and inverted U theories. [2]

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- (c) A 42-year-old male swimmer is preparing for a 10 km open-water swim. Describe how their age will impact their VO_2 max. [1]

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(Question 3 continued)

- (d) As a swimmer begins a race, their blood pressure increases leading to greater blood flow in the muscles. Explain why this is advantageous to their performance.

[2]

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- (e) Suggest **two** nutritional strategies to minimize gastrointestinal discomfort prior to swimming a race.

[2]

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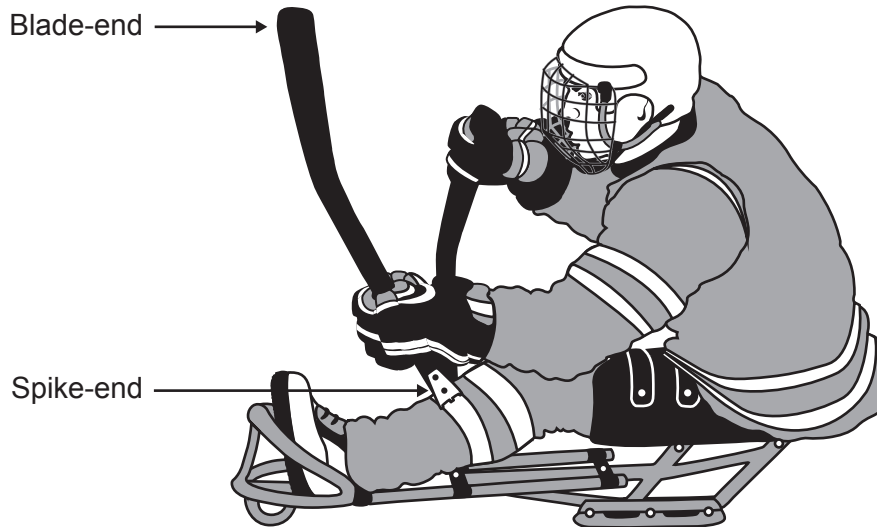
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4. In the team sport of para ice hockey, an athlete sits on a double-bladed sledge. Players use two sticks, each with a spike-end and a blade-end. Players use the spike-end of the sticks to move the sledge and the blade-end to play the puck.

Figure 3: Para ice hockey player on a double-bladed sledge



- (a) State the type of synovial joint that articulates at the proximal end of the femur. [1]

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- (b) Suggest how the height of the centre of mass impacts the stability of the para ice hockey player. [1]

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- (c) Outline the role of glucagon on the liver during a para ice hockey game. [1]

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(Question 4 continued)

- (d) Using an example, apply the principle of progressive overload to a para ice hockey player improving their upper-body strength through weight training. [1]

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- (e) Describe the feedback provided to an athlete in a mastery climate. [1]

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- (f) Using an example, outline **one** way to lower acute injury risk for para ice hockey players. [1]

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- (g) Explain how the mechanics of breathing cause air to rush into the lungs while at rest. [3]

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(Question 4 continued)

- (h) Outline how a deceptive shot in para ice hockey can exploit the psychological refractory period.

[3]

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- (i) State **two** ways to reduce bias when conducting experiments.

[2]

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References:

- Figure 1** Yokunen, 2021. *Uneven bars woman training isolated on white. Vector concept illustration with elegant sportswoman doing swing element upside down - stock illustration.* [image online] Available at: <https://www.gettyimages.co.uk/detail/illustration/uneven-bars-woman-training-isolated-on-white-royalty-free-illustration/1302653588?adppopup=true> [Accessed 8 April 2025]. Source adapted.
- Figure 3** MaxSM, 2015. *Sledge hockey player - stock illustration.* [image online] Available at: <https://www.gettyimages.co.uk/detail/illustration/sledge-hockey-player-royalty-free-illustration/537548863> [Accessed 6 June 2025]. Source adapted.

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12EP11

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Answers written on this page
will not be marked.



12EP12