



# Cambridge International AS & A Level

**PHYSICAL EDUCATION**

**9396/13**

Paper 1

**May/June 2020**

**2 hours 30 minutes**



You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

## INSTRUCTIONS

- Answer **all** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You should show all your working and use appropriate units.

## INFORMATION

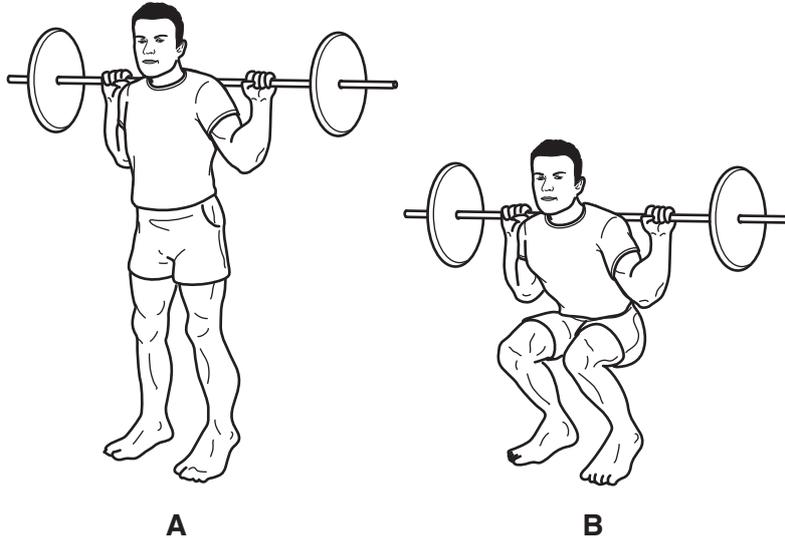
- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **4** pages. Blank pages are indicated.

Answer **all** questions.

**Section A: Applied anatomy and physiology**

- 1 (a) Identify and describe **four** types of movement possible at the wrist. [4]
- (b) The diagrams show a performance of a squat.



Identify the items 1–5 in the table to describe a movement analysis of the knee joint from position **A** to position **B**, and from position **B** to position **A**. Your analysis should include the type of movement occurring, the main agonist and the different types of muscle contraction.

	type of movement occurring	main agonist	different type of muscle contraction
knee joint from <b>A</b> to <b>B</b>	1	2	3
knee joint from <b>B</b> to <b>A</b>	4		5

[5]

- (c) During exercise heart rate increases.
- (i) Explain how neural and hormonal factors regulate the increase in heart rate before and during exercise. [6]
- (ii) Define the terms *heart rate* and *stroke volume*. [2]
- (iii) State the relationship between heart rate, cardiac output and stroke volume. [1]
- (d) Explain why blood pressure changes during exercise. [4]
- (e) (i) Explain how **three** features within the lungs enable efficient gaseous exchange. [3]
- (ii) Explain how partial pressure differences enable the transfer of oxygen from the lungs to the capillaries. [2]
- (f) Describe the immediate effects of moving to high altitude on the respiratory system. [3]

[Total: 30]

**Section B: Acquiring, developing and performing movement skills**

- 2 (a) Explain, using an example, how the development of a fundamental motor skill is affected by early childhood experiences and environmental exposure. [4]
- (b) (i) Explain Bandura's observational learning theory. [4]
- (ii) Suggest ways a coach could make a demonstration more effective when teaching a movement skill. [3]
- (c) Explain, using a suitable example, what is meant by an *executive motor programme*. [3]
- (d) Explain how closed-loop control is used when performing movements. [4]
- (e) (i) Define each of the following terms:
- reaction time
  - movement time
  - response time.
- [3]
- (ii) Explain how **four** different factors could slow the reaction time of a performer. [4]
- (f) Describe the characteristics and functions of short-term memory. [5]

[Total: 30]

**Section C: Contemporary studies in physical education and sport**

- 3 (a) Play is considered to be a valuable activity for children.
- (i) Describe the characteristics of play. [4]
  - (ii) State **four** ways that sport differs from play. [4]
- (b) Describe the provision required by a performer in order to achieve excellence in sport. [5]
- (c) One strategy to encourage more women to participate in physical activity is to increase media coverage of women's sport.
- Suggest other strategies. [4]
- (d) Outline possible barriers to participation in sport for people with disabilities. [4]
- (e) Outline, using examples, how sport and politics have been linked. [5]
- (f) Suggest reasons why some sport performers may become violent during competitive performance. [4]

[Total: 30]

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