



# Cambridge International AS & A Level

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**PHYSICAL EDUCATION**

**9396/13**

Paper 1

**October/November 2020**

**2 hours 30 minutes**



You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

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## 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 [ ].

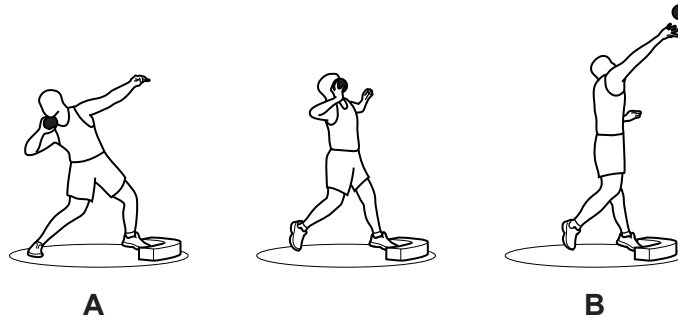
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This document has **4** pages. Blank pages are indicated.

Answer **all** questions.

**Section A: Applied anatomy and physiology**

- 1 (a) Explain the difference between concentric, eccentric and isometric muscle contractions. [3]
- (b) The diagrams show a throw in a shot-put event.



Identify the items 1–6 in the table to describe a movement analysis of the elbow joint and the shoulder joint of the throwing arm from position **A** to position **B**. Your analysis should include the type of synovial joint, the type of movement occurring and the main agonist.

	type of synovial joint	type of movement occurring	main agonist
elbow joint	1	2	3
shoulder joint	4	5	6

[6]

- (c) Describe the characteristics of fast glycolytic muscle fibres. [5]
- (d) (i) Explain the route taken when blood travels from the vena cava, through the chambers and valves of the heart, to the lungs where gaseous exchange takes place. [4]
- (ii) A healthy 18-year-old performer completes a 400-metre sprint race in 1 minute followed by a 10-minute recovery period.

Sketch and label a graph to show a typical heart rate response of the performer from the start of the race, when their heart rate is 100 bpm, to the end of the recovery period. [5]

- (e) Explain how the vascular shunt mechanism redistributes blood to the working muscles during exercise. [4]
- (f) Describe the structural features that assist gaseous exchange within the lungs. [3]

[Total: 30]

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

2 (a) Skilful performances:

- are goal directed
- follow a technical model
- are fluent.

Describe, using practical examples, what is meant by each of these **three** characteristics. [3]

(b) Abilities are *innate, underlying* and *enduring*.

Describe what is meant by each of these **three** terms. [3]

(c) Operant conditioning theory suggests that skills are learned by the strengthening of the stimulus–response (S/R) bond.

(i) Explain, using a practical example, what is meant by the term *stimulus–response bond*. [2]

(ii) Suggest how the stimulus–response bond can be strengthened. [4]

(d) (i) State the main functions of feedback when learning a motor skill. [3]

(ii) Outline how the type of feedback used may differ between performers in the associative phase of learning and performers in the autonomous phase of learning. [4]

(e) Transfer of learning may be important in the development of movement skills.

(i) Explain, using an appropriate example of positive transfer, how a coach could optimise the effects of positive transfer on skill learning. [2]

(ii) Describe, using an appropriate example, what is meant by the term *negative transfer* and suggest how a coach could limit the effects of negative transfer on skill learning. [3]

(f) (i) State **two** different types of motivation. [1]

(ii) Suggest strategies a coach could use to motivate a group of performers who train together regularly. [5]

[Total: 30]

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

- 3 (a) (i) Explain, using practical examples, each of the following terms:
- outdoor recreation
  - outdoor education. [4]
- (ii) Suggest benefits for an individual of participating in outdoor recreation. [4]
- (b) (i) Explain, using an activity of your choice, **three** similarities between the concept of play and the concept of recreation. [3]
- (ii) State **four** ways that the concept of sport differs from the concept of play. [4]
- (c) Suggest why many countries invest heavily to achieve Olympic success. [4]
- (d) Describe **two** differences between public leisure provision and private leisure provision. [2]
- (e) Explain the social and economic factors that may affect an individual's opportunity to participate in sport. [4]
- (f) Discuss the advantages and disadvantages of sponsorship for a performer. [5]

[Total: 30]

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