Cambridge International AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level

PHYSICAL EDUCATION **9396/13**

Paper 1 **October/November 2017**

2 hours 30 minutes

No Additional Materials are required.

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READ THESE INSTRUCTIONS FIRST

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.
Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **5** printed pages, **3** blank pages and **1** Insert.

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CAMBRIDGE International Examinations

[Turn over

Answer **all** questions.

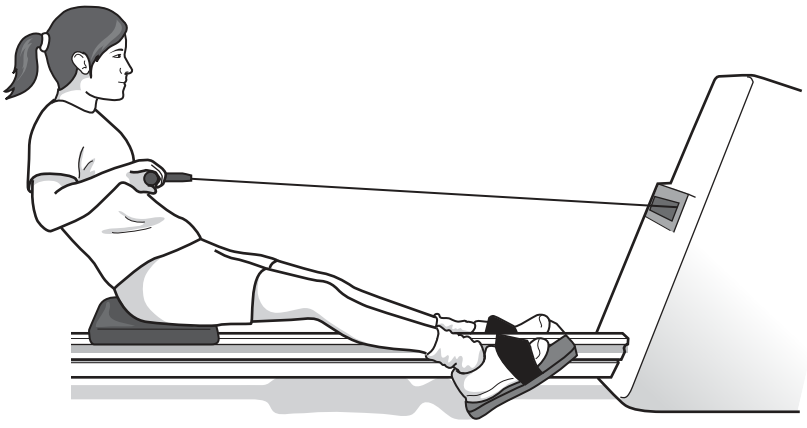
Section A: Applied anatomy and physiology

1 (a) (i) Name **two** different types of joint located in the spine and state a type of movement that is possible at each of these joints. [4]

(ii) Explain, using examples from physical activities, the role of the external obliques and the role of the erector spinae muscles. [4]

(b) The diagrams show a performer rowing.

A



B

Identify the items 1 to 5 in the table to describe a movement analysis of the hip and shoulder joints from position **A** to position **B**. Your analysis should include the type of muscle contraction, the type of movement occurring and the main agonist.

	type of muscle contraction	type of movement occurring	main agonist
hip joint	1	2	3
shoulder joint		4	5

[5]

(c) Heart rate and stroke volume increase during exercise.

(i) Explain how this increase in stroke volume is achieved. [2]

(ii) Explain how structures within the heart control the heart rate. [4]

(d) Venous return is assisted by the action of pocket valves.

Name and describe **two** other mechanisms that assist venous return during exercise. [4]

(e) Explain the role of haemoglobin and the role of myoglobin in the transport of oxygen to a muscle cell. [3]

(f) Explain how the structure of the lungs aids the process of gaseous exchange. [4]

[Total: 30]

[Turn over

Section B: Acquiring, developing and performing movement skills

2 **(a)** Serving in a racket sport, such as tennis, can be classified according to various skill continua.

Classify serving according to the following four continua, justifying each of your choices.

- open to closed
- internally paced to externally paced
- discrete to continuous
- high organisation to low organisation [4]

(b) The flow diagram shows that, to learn a specific skill in sport, a performer progresses from motor abilities through fundamental motor skills to sport-specific skills.

motor abilities → fundamental motor skills → sport-specific skills

Describe, using a practical example from a team sport, this progression in skill development. [4]

(c) Outline the principles of the cognitive theory of learning and explain the benefits of using this approach to develop skilful performers. [5]

(d) The memory process plays an important part in acquiring and performing movement skills.

Describe the basic model of the memory process when performing movement skills. [5]

(e) One way of learning a new skill is through operant conditioning, which involves reinforcement to strengthen the stimulus-response bond.

Use examples to distinguish between the different types of reinforcement. [3]

(f) In team games, players will try to create a situation where there are two attackers against one defender (2 v 1). When the players are novices, the attack often breaks down.

In terms of the input stage of information processing, explain why the attack may break down. [3]

(g) Describe the drive reduction theory and explain how it affects the learning of motor skills in sport. [6]

[Total: 30]

Section C: Contemporary studies in physical education and sport

3 **(a)** Outline the ways a school physical education programme encourages participation in sport. [4]

(b) Outdoor and adventurous activities, such as canoeing and rock climbing, take place in the natural environment and involve risk.

Explain, using examples from canoeing or rock climbing, what is meant by real risk and what is meant by perceived risk. [4]

(c) **(i)** State and describe the **four** levels of the sport performance pyramid. [4]

(ii) Suggest what provision is required for a performer to stay at the highest level of the performance pyramid. [4]

(d) **(i)** Outline the potential benefits to an individual of continued participation in physical activity. [4]

(ii) Suggest reasons why some people do **not** take part in physical activity. [4]

(e) Discuss the impact of the media and the commercialisation of sport on spectators. [6]

[Total: 30]

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