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**PHYSICAL EDUCATION**

**9396/11**

Paper 1

**October/November 2014**

**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.

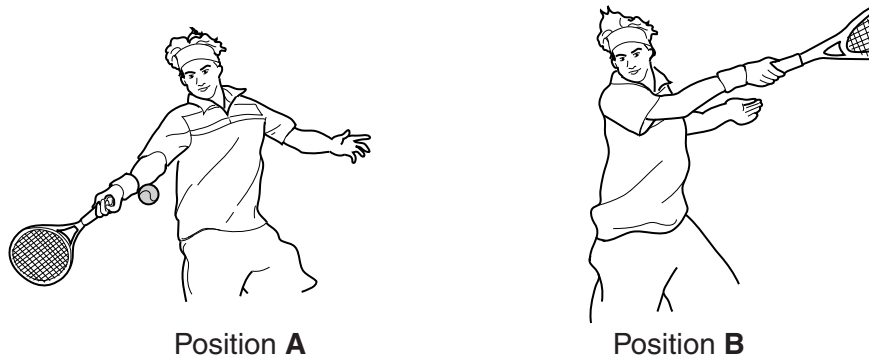
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This document consists of **4** printed pages and **1** insert.

Answer **all** questions.

**Section A: Applied Anatomy and Physiology**

- 1 (a) Fig. 1 shows the striking arm during a tennis shot.



**Fig. 1**

- (i) Identify the items 1–5 in the table below to describe a movement analysis of the shoulder and elbow joints of the striking arm during the tennis shot as it moves from position **A** to position **B**. Your analysis should include the type of muscle contraction, the type of movement occurring and the agonist muscles involved in this movement.

	<b>type of muscle contraction</b>	<b>type of movement occurring</b>	<b>agonist muscle</b>
shoulder joint	1	2	3
elbow joint		4	5

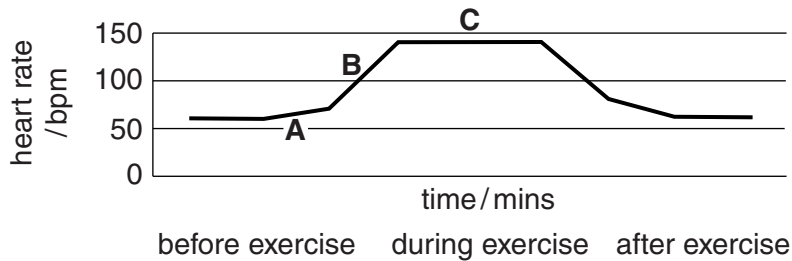
[5]

- (ii) Name the bones that articulate at the shoulder joint and at the elbow joint. [2]
- (iii) Name the type of synovial joint working at the shoulder **and** explain features of this joint that aim to prevent injury occurring. [5]

- (b) During exercise the heart rate of a performer will increase.

- (i) Describe the route of blood from the vena cava, through the chambers and valves of the heart, to the lungs **and** explain what happens at each stage. [4]

- (ii) Fig. 2 shows the changes in the heart rate of a performer before, during and after exercise.



**Fig. 2**

Using the information in Fig. 2, identify **and** explain the changes taking place at points **A**, **B** and **C**. [6]

- (c) The respiratory system undergoes a number of changes during exercise.
- (i) Define the terms *tidal volume* and *residual volume* **and** outline how they change during exercise. [4]
- (ii) Explain how an increase in levels of carbon dioxide and blood acidity cause the breathing rate to rise. [4]

[Total: 30]

### Section B: Acquiring, Developing and Performing Movement Skills

- 2 (a) Explain the difference between the terms *skill* and *ability*. [2]

- (b) Skills can be classified using various continua.

One event in athletics is the 1500 metres. Classify the 1500 metre race using each of the four continua below **and** justify your answer for each classification.

- open and closed
- discrete, serial and continuous
- externally and internally paced
- high and low organisation [4]

- (c) Outline the theory of operant conditioning **and** explain the disadvantages of using this approach to develop skilful performers. [6]

- (d) During the development of skills a performer will progress through various phases of learning.

Name the first phase of learning **and** explain how the coach can maximise learning during this phase. [4]

- (e) Feedback is important in the development of skills.

Using practical examples, explain what is meant by the terms *terminal* and *concurrent feedback*. [2]

- (f) Motivation is used to develop persistence and maintain a performer's effort levels.

Define the terms *intrinsic* and *extrinsic motivation* **and** explain which of these is considered to be the most important. [4]

- (g) Performers often have to complete a variety of skills, also known as motor programmes.

Explain the difference between open loop control and closed loop control. [4]

- (h) The memory process is a component of information processing that allows skills to be completed.

Identify the strategies a coach could use to improve the memory process. [4]

[Total: 30]

### Section C: Contemporary Studies in Physical Education and Sport

- 3 (a) Outdoor and adventurous activities have become increasingly popular.

(i) Explain, using practical examples, the terms *outdoor recreation* and *outdoor education*. [4]

- (ii) Rock climbing is an example of an outdoor recreation activity.

What are the benefits to an individual from participating in outdoor recreation activities? [4]

- (b) Explain the social factors that may affect an individual's opportunity to participate in sport. [6]

- (c) Countries have different approaches to the development of sporting excellence.

(i) What are the advantages of a country deciding to invest heavily in developing elite sport? [5]

(ii) What are the possible negative effects on a performer's ethics when participating in elite sport? [4]

- (d) How can sporting organisations attempt to counteract an increase in spectator violence? [7]

[Total: 30]

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