



**ADVANCED SUBSIDIARY GCE  
PHYSICAL EDUCATION**  
An Introduction to Physical Education

**G451**

Candidates answer on the Question Paper

**OCR Supplied Materials:**  
None

**Other Materials Required:**  
None

**Tuesday 19 January 2010  
Morning**  
**Duration: 2 hours**



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**MODIFIED LANGUAGE**

**INSTRUCTIONS TO CANDIDATES**

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Only use pencil for graphs and diagrams.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- There are three Sections in this paper.
- Answer **all** parts of the question in each of Sections A, B and C.
- Do **not** write in the bar codes.

**INFORMATION FOR CANDIDATES**

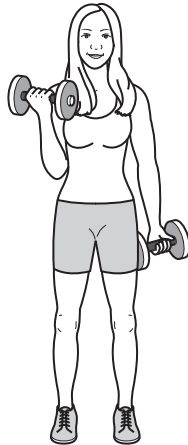
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is **90**.
- The quality of your written communication will be assessed in questions that are marked with a star (\*).
- This document has **16** pages. Any blank pages are marked.

**Section A**

Answer **all** parts of the question.

**Anatomy and Physiology**

- 1 (a) Fig. 1 shows an athlete performing a bicep curl. Use your anatomical and physiological knowledge to complete the table below for the athlete's elbow during the **upward** phase of the bicep curl.



**Fig. 1**

Joint	Joint Type	Movement	Agonist	Antagonist
Elbow			Biceps Brachii	

What type of muscle contraction is occurring in the biceps brachii during the **downward** phase of the bicep curl?

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Name **one** muscle in the trunk which works to maintain good posture and core stability during the bicep curl.

..... [5]

(b) Using a serve in tennis, explain Newton's three laws of motion.

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(c) Venous return is the transport of deoxygenated blood to the right side of the heart.

Give **three** mechanisms which maintain venous return during exercise.

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An increase in venous return can improve performance.

Explain how the increase in blood flow affects cardiac output.

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(d) Fig 2. shows the changes in heart rate of an athlete during a sub-maximal exercise session. Describe the neural mechanisms which cause heart rate to change during exercise.

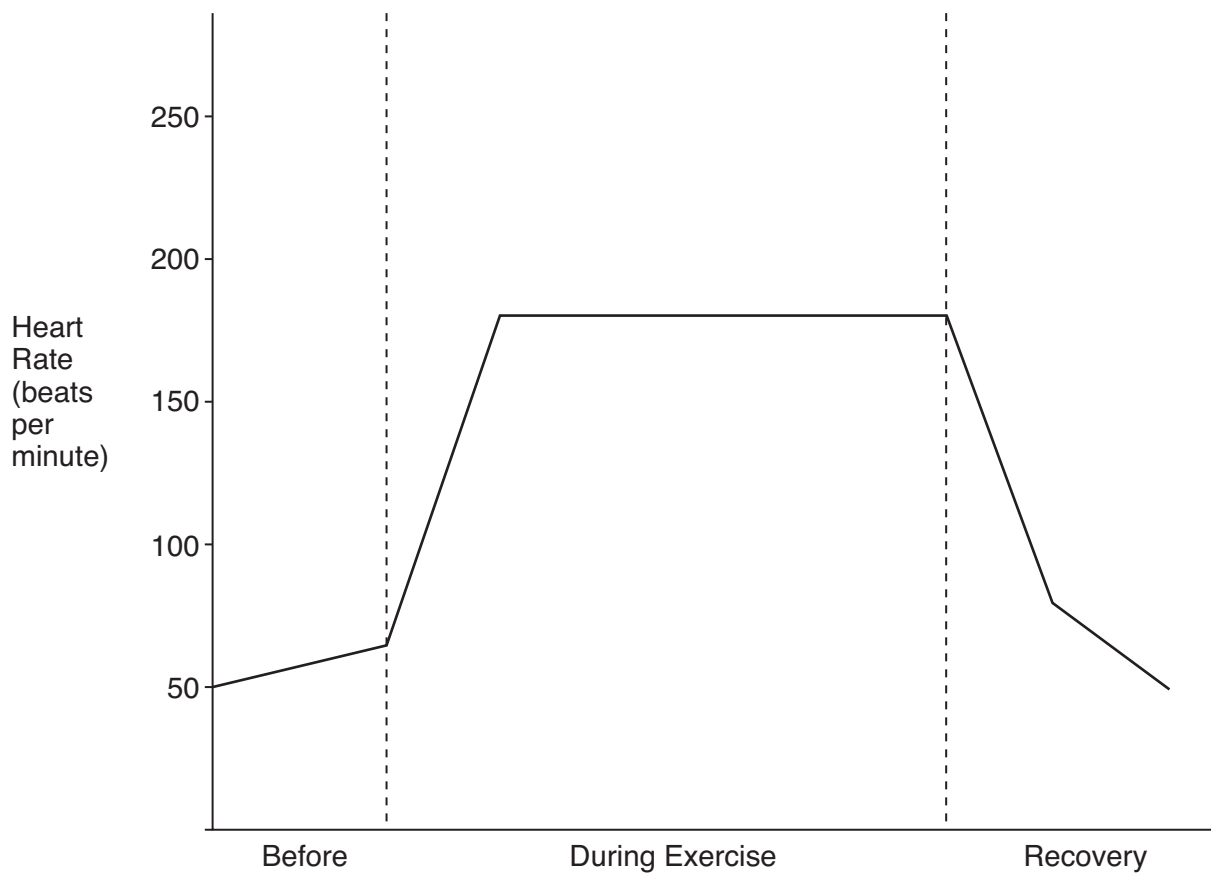


Fig. 2

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(c) Learning and performing movement skills often uses the memory process. Describe the multi-store memory process when performing movement skills.

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(d) Using the Inverted U theory **and** a practical example, explain how levels of arousal can affect the performance of movement skills.

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**[10]**  
**[Total: 30]**

**Section C**

Answer **all** parts of the question.

**Socio-Cultural studies relating to participation in physical activity**

**3 (a)** Most people believe that physical activity is part of a healthy lifestyle. However, people lead more sedentary lifestyles now than in the past.

**(i)** Identify reasons for increasingly sedentary lifestyle in the UK today.

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**(ii)** What are the physical activity recommendations for active lifestyles?

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(b) Identify **one** difference between Outdoor Recreation and Outdoor Education. Explain why there is limited regular participation in Outdoor Education by young people.

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(c) In the UK various organisations are involved with physical activity.  
Describe the work of home country organisations (such as Sport England):

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Describe the work of The British Olympic Association (BOA):

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..... [10]

[Total: 30]

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