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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
ADVANCED SUBSIDIARY GCE**

G451

PHYSICAL EDUCATION

UNIT G451

An Introduction to Physical Education

TUESDAY 19 JANUARY 2010: Morning

DURATION: 2 hours

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **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.**

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 indicated accordingly (*).**

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SECTION A

Answer ALL parts of the question.

ANATOMY AND PHYSIOLOGY

- 1 (a) An athlete performs 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.

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?

Name ONE muscle in the trunk acting to maintain good posture and core stability during the biceps curl.

[5]

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

[5]

(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.

An increase in venous return can improve performance.

Explain how the increase in blood flow affects cardiac output.

[6]

(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.

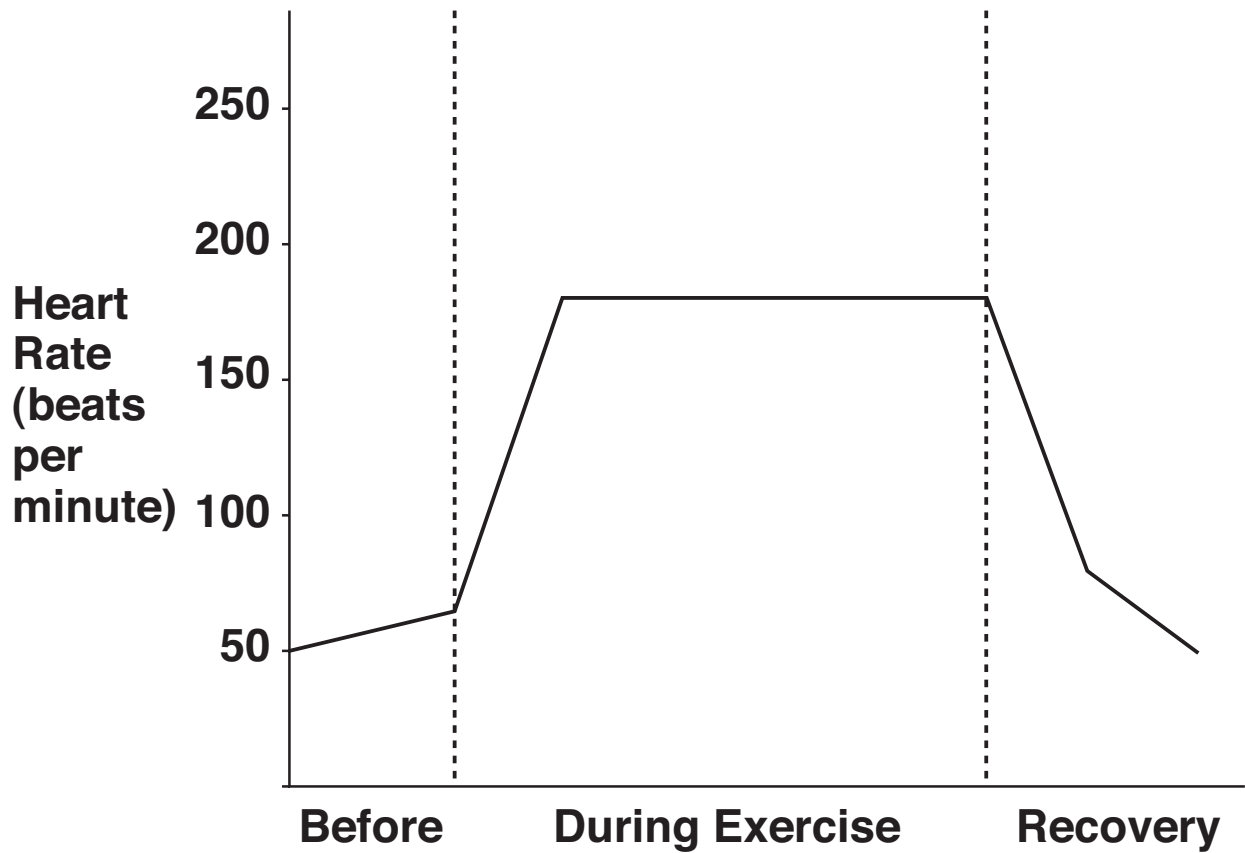


Fig. 2

[4]

(e)* Discuss the positive and negative effects on the skeletal system of young people performing:

- contact sports**
- high impact sports**
- activities involving repetitive actions**

SECTION B

Answer ALL parts of the question.

ACQUIRING MOVEMENT SKILLS

- 2 (a) Identify a motor skill in sport and justify its classification on the open-closed continuum. Explain which practice methods would be most appropriate for this skill.**

[6]

(b) Explain the role of mental practice in the performance of movement skills.

[4]

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

[4]

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

[6]

(e)* Using practical examples, explain the process of observational learning when it is used for acquiring movement skills AND learning to follow an active and healthy lifestyle. Refer to Bandura's model in your answer.

SECTION C

Answer ALL parts of the question.

SOCIO-CULTURAL STUDIES RELATING TO PARTICIPATION IN PHYSICAL ACTIVITY

3 (a) It is widely accepted 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.

[3]

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

[2]

(c) In the UK various organisations are involved with physical activity.

Describe the work of BOTH:

Home country organisations (such as Sport England):

The British Olympic Association (BOA):

[5]

(d) The game of American football is extremely popular in the USA.

Give reasons for the violence and commercialism associated with American Football.

[5]

(e)* Discuss social and cultural factors that affect participation in physical activity in the UK.



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