

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
ADVANCED GCE**

**G453**

**PHYSICAL EDUCATION**

**Principles and concepts  
across different areas of Physical Education**

**MONDAY 1 FEBRUARY 2010: Morning**

**DURATION: 2 hours 30 minutes**

**SUITABLE FOR VISUALLY IMPAIRED CANDIDATES**

**Candidates answer on the Answer Booklet**

**OCR SUPPLIED MATERIALS:**

**8 page Answer Booklet**

**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 spaces provided on the Answer Booklet.**
- **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.**
- **Answer THREE questions, at least one of which must be from Section A.**

## **INFORMATION FOR CANDIDATES**

- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **The quality of your written communication will be assessed in questions that are indicated accordingly (\*).**
- **The total number of marks for this paper is 105.**

## **SECTION A**

**Candidates must answer at least one question from Section A.**

### **HISTORICAL STUDIES (OPTION A1)**

- 1 (a) Social and cultural factors influence participation and performance in physical activity.**

**Explain how socio-cultural factors influenced the characteristics of popular recreation in pre-industrial Britain.**

**State how one of these factors continues to impact on participation and performance today. [5]**

- (b) Nineteenth century public schools were usually fee paying, non-local and boarding. Explain the impact of each of these three characteristics on the development of games in nineteenth century public schools. Comment on how one of these characteristics impacts on young people in schools today. [4]**

- (c) Describe the different forms of athletics in nineteenth century public schools and compare these with forms of athletics that young people participate in today. [6]**

- (d)\* Explain the development of public baths in urban industrial communities in the nineteenth century. To what extent do developmental factors from the nineteenth century continue to impact on participation and performance today? [20]**

**[Total: 35]**

## **SECTION A**

### **COMPARATIVE STUDIES (OPTION A2)**

- 2 (a) The dominant values of a country can affect participation and performance in physical activity within that country.**

**Outline the dominant values in both the UK and the USA that can affect participation and performance in physical activity. [5]**

- (b) Describe the strategies and provision for mass participation in physical activity in the USA. Explain why opportunities for mass participation are considered to be greater in the UK than in the USA. [5]**

- (c) Explain the growth and development of association football in Australia. How does this compare with the development of association football in the UK? [5]**

- (d)\* Compare the provision for Physical Education and school sport in Australia and the UK. To what extent do cultural factors influence provision for Physical Education and school sport in Australia? [20]**

**[Total: 35]**

## **SECTION B**

### **SPORTS PSYCHOLOGY (OPTION B1)**

- 3 (a) Performers in sport who are doing well in competition are often described as being ‘in the zone’.**

**Explain what is meant by the zone of optimum functioning. [4]**

- (b) Explain, using practical examples, how goal-setting could be effectively used to improve participation in physical activity. [5]**

- (c) Using practical examples, explain the possible positive and negative effects of an audience on sports’ performance. [6]**

- (d)\*The following is a typical statement made by a young person who has given up sport and leads an unhealthy lifestyle:**

***‘I think sport is boring. I am no good at it, I don’t enjoy it and I can think of better things to do on a Saturday afternoon.’***

**Using attribution and attitudinal theories, evaluate critically the reasons why this young person does not participate in sport.**

**How might you persuade this young person to once again take up sport? [20]**

**[Total: 35]**

## SECTION B

### BIOMECHANICS (OPTION B2)

- 4 (a) Identify the three main axes of rotation and give a sporting example of each. [3]
- (b) What is meant by the term centre of mass and how does this help to explain why the Fosbury Flop is the preferred technique for the high jump? [4]
- (c) Fig. 4 represents the foot of a tennis player pivoting at a pivot under the ball of the foot.

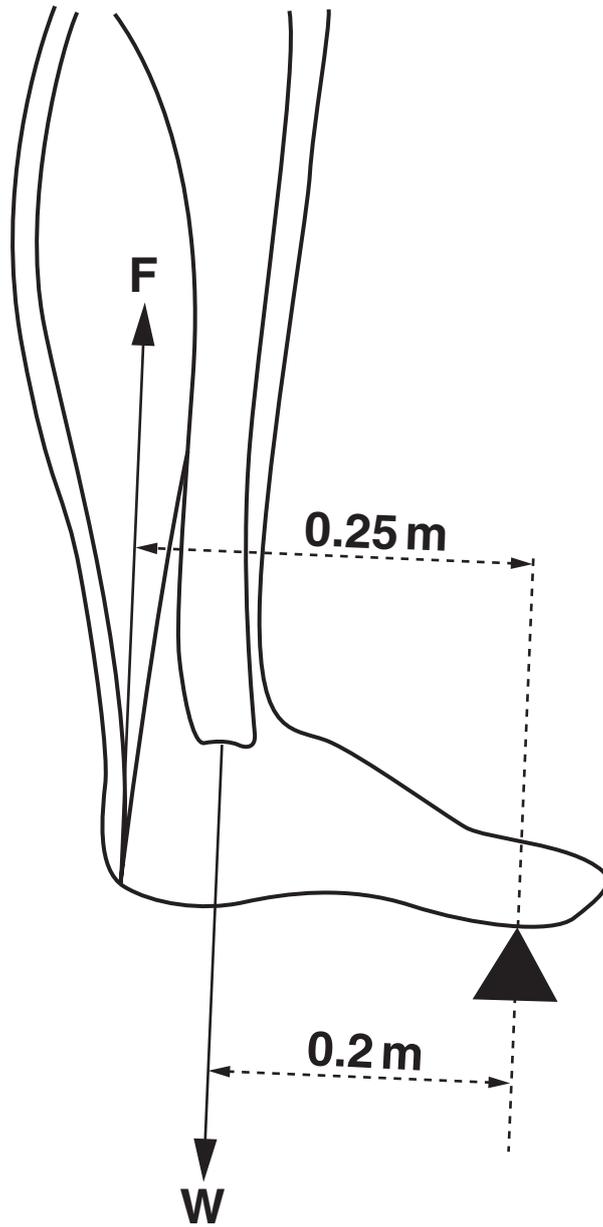
If the mass of the tennis player is 80 kg, calculate his weight  $W$  and the moment of force caused by the weight (Assume the acceleration due to gravity is  $10 \text{ ms}^{-2}$ ). Show all your working.

State the Principle of Moments and calculate the force  $F$  needed by the gastrocnemius and soleus for this system to remain balanced.

Explain why this lever system is more efficient than that of the elbow during a bicep curl. [8]

- (d)\* Sketch a free body diagram to show the forces acting on a ball with topspin during flight. Examine the effects of different types of spin on a ball during flight and when bouncing. Evaluate the advantages and disadvantages of each type of spin in sport. [20]

[Total: 35]



**Fig. 4**

## **SECTION B**

### **EXERCISE AND SPORT PHYSIOLOGY (OPTION B3)**

- 5 (a) The recovery process returns the body to its pre-exercise state. Describe the main processes involved in the alactacid component of recovery. [5]**
- (b) Explain what is meant by the term metabolic equivalent/MET. How can knowledge of METs be useful to a performer? [4]**
- (c) Carbohydrates are a valuable source of energy. Why is it important for a performer to ensure that they have adequate supplies of carbohydrate? How can a performer make sure that they don't deplete their stores of carbohydrate? [6]**
- (d)\* Devise a six month training programme that will develop aerobic capacity. Justify your programme by referring to the theory of periodisation and the principles of training. [20]**

**[Total: 35]**

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