

**Wednesday 19 June 2013 – Afternoon**

**A2 GCE PHYSICAL EDUCATION**

**G453/01** Principles and Concepts Across Different Areas of Physical Education

Candidates answer on the Answer Booklet.

**OCR supplied materials:**

- 16 page Answer Booklet  
(sent with general stationery)

**Other materials required:**

- Calculators may be used

**Duration:** 2 hours 30 minutes

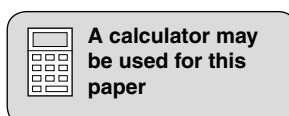


**INSTRUCTIONS TO CANDIDATES**

- Write your name, centre number and candidate number in the spaces provided on the Answer Booklet. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **three** questions, at least one of which must be from Section A.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- 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 quality of your written communication will be assessed in questions that are indicated accordingly (\*).
- The total number of marks for this paper is **105**.
- This document consists of **8** pages. Any blank pages are indicated.



**SECTION A**

Candidates must answer at least one question from Section A.

**Historical Studies (Option A1)**

- 1 (a) Explain how socio-cultural factors influenced the characteristics of mob football in pre-industrial Britain.

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

- (b) Nineteenth century public schools went through three developmental stages of athleticism.

Describe stage two when Dr Thomas Arnold was head of Rugby School.

Give **one** reason for athleticism in girls' public schools developing more slowly than in boys' public schools during stage three. [5]

- (c) The objectives, content and method of teaching physical activity in state schools have changed considerably over time.

Explain why the 1902 Model Course was quickly replaced.

State **one** objective of the 1933 Syllabus that was different from the objectives of the 1902 Model Course. [5]

- (d)\* Analyse the impact of social class **and** gender on the development of tennis from its earliest days to today. Your answer should include descriptions of the pre-industrial game of real tennis **and** the post-industrial game of lawn tennis. [20]

## SECTION A

## Comparative Studies (Option A2)

- 2 (a) Describe initiatives to promote Physical Education and sport in Australian schools.  
Identify **one** initiative to promote Physical Education and sport in the UK. [5]
- (b) Outline the development of association football in Australia.  
Compare this with the development of association football in the UK. [5]
- (c) Describe the potential benefits of summer camps for young people in the USA.  
Give reasons why summer camps for young people are less popular in the UK than in the USA. [5]
- (d)\* Compare and evaluate high school sport in the USA and secondary school sport in the UK. [20]

**SECTION B****Sports Psychology (Option B1)**

- 3 (a)** Using examples, explain why goal setting is important in sustaining a balanced, active and healthy lifestyle. **[4]**
- (b)** Cue utilisation is one aspect of attentional control.  
Using examples from sport, explain the effects of cue utilisation on performance. **[5]**
- (c)** Describe the characteristics of the following styles of leadership and explain when they might be used in sport:
- task-oriented
  - social-oriented
  - laissez-faire. **[6]**
- (d)\*** Explain the possible positive and negative effects of an audience on sports performance.  
Describe strategies to combat effects of social inhibition on performers in sport. **[20]**

## SECTION B

## Biomechanics (Option B2)

4 (a) Describe what is meant by the inertia of a moving object. [4]

(b) A cricket ball is hit with an average force of 400 newtons in a time of 0.1 seconds.

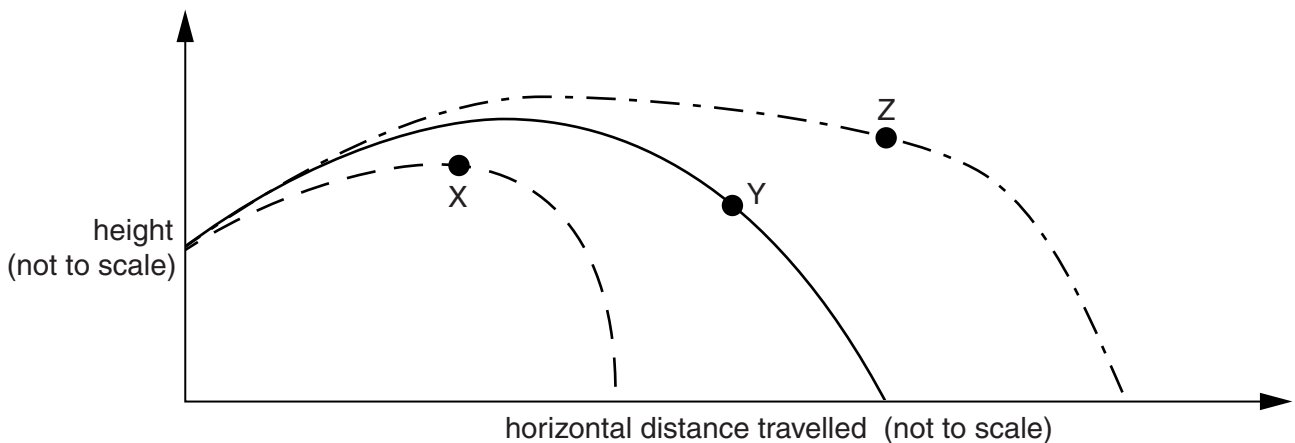
Define impulse and calculate its value when the cricket ball is hit.

Explain how knowledge of impulse can help a fielder to decrease the momentum of a cricket ball when making a catch. [5]

(c) Define the analogue of Newton's First Law of Motion.

Explain how a figure skater controls angular velocity when performing a multiple spin about the longitudinal axis. [6]

(d)\* Fig. 1 represents the flight paths of three different projectiles in sport.



X	represents the flight path of a tennis ball with topspin
Y	represents the flight path of a shot in athletics
Z	represents the flight path of a javelin in athletics

**Fig. 1**

Draw a free body diagram for each projectile showing all the forces acting during flight.

Explain the shape of the flight path for each of the projectiles. [20]

## SECTION B

## Exercise and Sport Physiology (Option B3)

- 5 (a) Identify **two** types of strength.

Describe a method used to measure each type.

[4]

- (b) Evaluate the dietary intake of the recreational endurance performer shown in Table 1 below. Include recommendations for improvement of the dietary intake in your answer.

State **one** way in which the diet of an elite endurance performer should contrast with the diet of a recreational endurance performer.

[5]

Dietary Component	% of Dietary Intake
Protein	15
Fat/lipids	45
Carbohydrate	40

Table 1

- (c) Define the terms 'energy', 'work' and 'power', and identify a unit of measurement for each.

Explain the role of ATP in providing energy for muscle contraction.

[6]

- (d)\* Define the term flexibility.

Using examples, explain factors that can affect the flexibility of a performer in sport.

Critically evaluate different types of training used to develop flexibility.

[20]



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