OCR
Oxford Cambridge and RSA

Monday 11 June 2018 – Morning

A2 GCE PHYSICAL EDUCATION

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

Candidates answer on the Answer Booklet.

OCR supplied materials:
- 12 page Answer Booklet (OCR12) (sent with general stationery)

Other materials required:
- Calculators may be used

Duration: 2 hours 30 minutes

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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 barcodes.

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.

A calculator may be used for this paper

SECTION A

Candidates must answer at least one question from Section A.

Historical Studies (Option A1)

1 **(a)** Pedestrianism was a form of athletics which was a popular recreation activity.

Describe pedestrianism and give reasons for its popularity in pre-industrial Britain. **[5]**

(b) How did the following characteristics influence the development of games in nineteenth century public schools:

Non-local
Boarding
Fee paying

Outline how **one** of these three characteristics might have an influence on school students today. **[4]**

(c) Describe the significance of social class on cricket as a rational recreation.

Describe **one** factor that has helped to develop contemporary cricket in the UK. **[6]**

(d)* Describe the 1933 Physical Education syllabus.

Evaluate how successful curriculum developments in school Physical Education have been since the Moving and Growing Programme of the 1950s. **[20]**

SECTION A

Comparative Studies (Option A2)

2 **(a)** Geographical factors which can limit or encourage participation in sport and physical activity in a country include:

- size
- topography
- climate
- population density
- transport.

Explain the effect of **four** of these factors on sporting opportunity in Australia.

Compare **one** of these factors with the geography of the UK. **[5]**

(b) Outline values in the UK and the USA that can influence participation in sport. **[5]**

(c) Compare school Physical Education in the USA to the UK. **[5]**

(d)* Discuss how the provision of sport and the pursuit of excellence in the UK compares with that in Australia. **[20]**

SECTION B

Sports Psychology (Option B1)

3 **(a)** Identify **two** characteristics of an effective leader in sport.

Explain how good leadership can affect lifestyle behaviour. **[4]**

(b) Describe strategies that might promote mastery orientation and help to avoid learned helplessness in sports performance. **[5]**

(c) Steiner's model of group performance identifies 'faulty processes'.

Using practical examples, describe faulty processes in relation to team performance in sport. **[6]**

(d)* Being able to concentrate using attentional control is often important to sports performers.

Explain, using practical examples, how concentration can be influenced by applying the theories of cue utilisation and attentional styles. **[20]**

SECTION B

Biomechanics (Option B)

4 **(a)** Air resistance is a force that acts against a moving body.

Describe factors that affect air resistance acting against a racing cyclist. **[4]**

(b) **Fig. 1** below shows the amount of force applied to a hockey ball during a free hit.

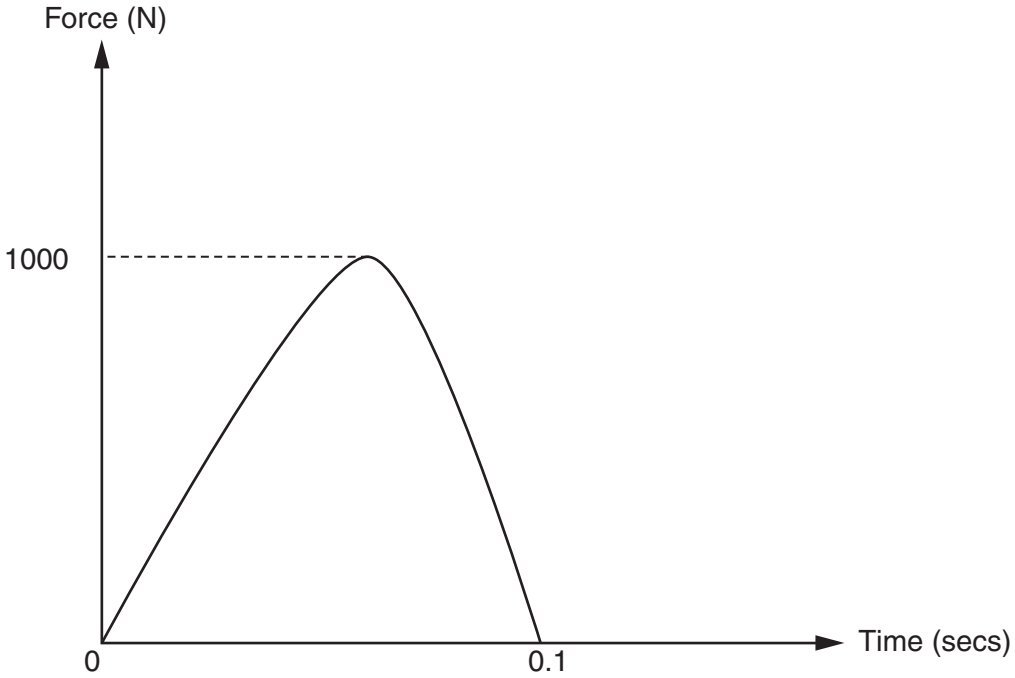

Fig. 1

(i) Define the term impulse. **[1]**

(ii) Using information from the graph, estimate the value of the impulse of force acting on the ball during the free hit. **[2]**

(iii) Explain how the relationship between impulse and increasing momentum could affect the performance of a free hit in hockey. **[3]**

(c) Describe the effect of backspin on the flight path of a golf ball.

Explain the effect that backspin has on the bounce of a golf ball. **[5]**

(d)* Sketch graphs to show how angular velocity and moment of inertia of an ice skater changes during the performance of a triple spin in the air.

Explain the concept of moment of inertia.

Use the analogues of Newton's Laws of Motion to explain how the ice skater maximises the performance of a triple spin in the air from take-off to landing. **[20]**

SECTION B

Exercise and Sport Physiology (Option B3)

5 **(a)** Describe the lactic acid energy system. **[5]**

(b) Explain how and why an Olympic athlete would apply the theory of periodisation when planning a training programme. **[6]**

(c) Explain the use of target heart rates as an intensity guide. **[4]**

(d)* Define aerobic capacity and explain the physiological adaptations that would take place following a prolonged period of aerobic training.

Critically evaluate the test methods that could be used to measure aerobic capacity. **[20]**

END OF QUESTION PAPER

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