Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

4932778636

PHYSICAL EDUCATION **0413/13**

Paper 1 Theory **May/June 2019**

1 hour 45 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

The number of marks is given in brackets [ ] at the end of each question or part question.
The total mark for this paper is 100.

This document consists of **17** printed pages and **3** blank pages.

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Cambridge Assessment International Education

[Turn over

1 State **two** different joint types found in the human skeleton.

1 .....

2 .....
[2]

2 The sports development pyramid has four levels.

Photograph **A** shows an introductory Physical Education lesson in basketball and photograph **B** shows a local club playing a competitive match.



A



B

(a) Identify the level of the sports development pyramid shown in each photograph.

A .....

B .....
[2]

(b) Describe characteristics of the following levels of the sports development pyramid:

elite level .....

.....

.....

.....

.....

.....

participation level. .....

.....

.....

.....

.....

.....

[6]

(c) Suggest **two** strategies, other than Physical Education lessons, that schools may use to increase participation in physical activity.

1 .....

.....

.....

2 .....

.....

.....

[2]

[Total: 10]

3 Describe **two** requirements for good social health and well-being.

1 .....

.....

2 .....

.....

[2]

4 **(a)** Flexion occurs as the knee is bent.

Describe, naming the agonist and antagonist, how this movement occurs.

agonist .....

antagonist .....

description .....

.....

.....

[3]

(b) **(i)** Describe the role of tendons.

.....

..... [1]

(ii) Describe **two** possible causes of a tendon injury during a physical activity.

1 .....

.....

2 .....

.....

[2]

(iii) The RICE treatment method is used to treat tendon injuries.

Suggest a different reason for using each of the following components of the RICE treatment method:

ice .....

.....

compression. .....

.....

[2]

[Total: 8]

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5 **(a)** An equation for aerobic respiration is shown.

glucose + **A** → **B** + water

Name the substances represented by **A** and **B**.

A .....

B .....
[2]

(b) Describe how and where glucose is stored in the body.

.....

.....

.....

..... [2]

(c) Describe, using **two** physical activities, different situations when a performer is likely to change from using aerobic respiration to using anaerobic respiration.

physical activity 1 .....

.....

.....

.....

physical activity 2 .....

.....

.....

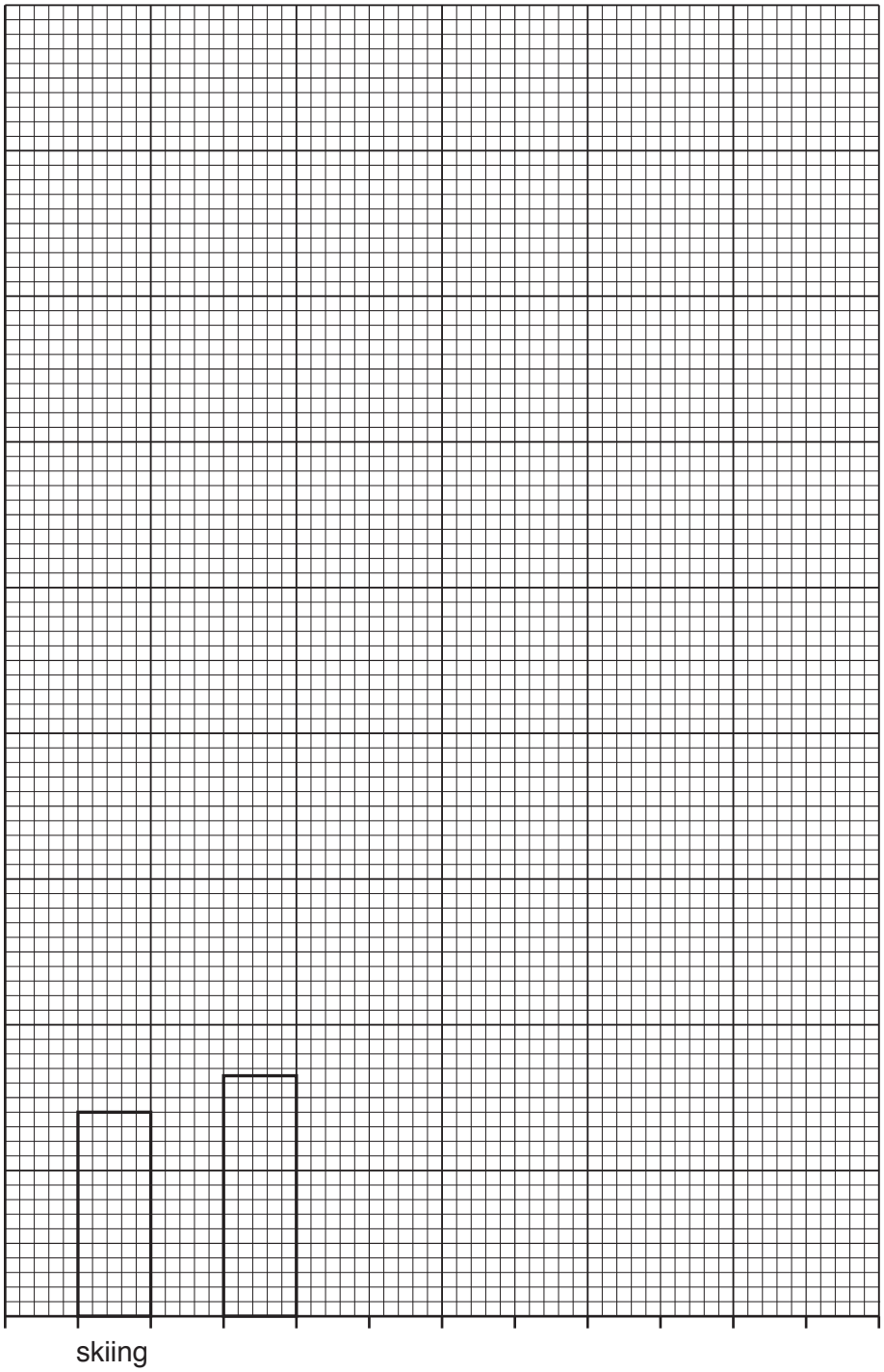
.....
[2]

[Total: 6]

6 The table shows the number of hours in a week that certain sports were shown on a television network.

sport	skiing	basketball	cricket	tennis	rugby	football
number of hours on television	28	33	52	95	63	172

(a) Complete the bar chart using the information from the table. Complete both axes.



[3]

(b) Suggest **two** advantages for performers of high levels of television coverage in sport.

1 .....

.....

2 .....

.....

[2]

(c) Suggest **two** disadvantages for the audience/spectators of increased television coverage in sport.

1 .....

.....

2 .....

.....

[2]

(d) Suggest **two** advantages for the host nation of a global event being shown on television.

1 .....

.....

2 .....

.....

[2]

[Total: 9]

7 **(a)** Explain, using an example of each, the difference between skill and ability.

.....

.....

.....

.....

.....

..... [3]

(b) Name the second stage of learning and describe a characteristic of a performer at this stage.

name of stage .....

description .....

.....

.....

[2]

(c) Describe the differences between short-term memory and long-term memory.

.....

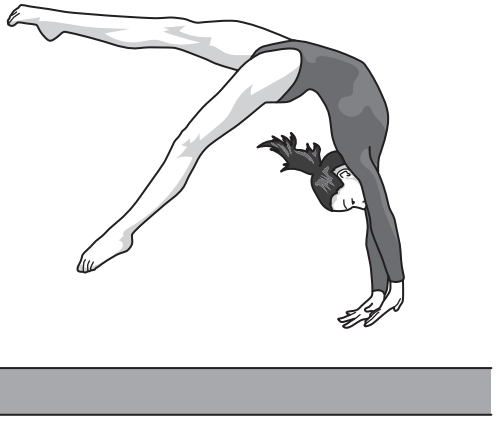
.....

.....

..... [2]

[Total: 7]

8 **(a)** The diagram shows an elite gymnastics performer.



(i) Name a component of fitness, other than strength, required by the performer in the diagram.

..... [1]

(ii) Name and describe a recognised test for the component of fitness named in **(a)(i)**.

name of test .....

description of test .....

.....

.....

.....

.....

.....

.....

.....

[4]

(b) Suggest **two** reasons for carrying out fitness tests on an elite performer.

1 .....

.....

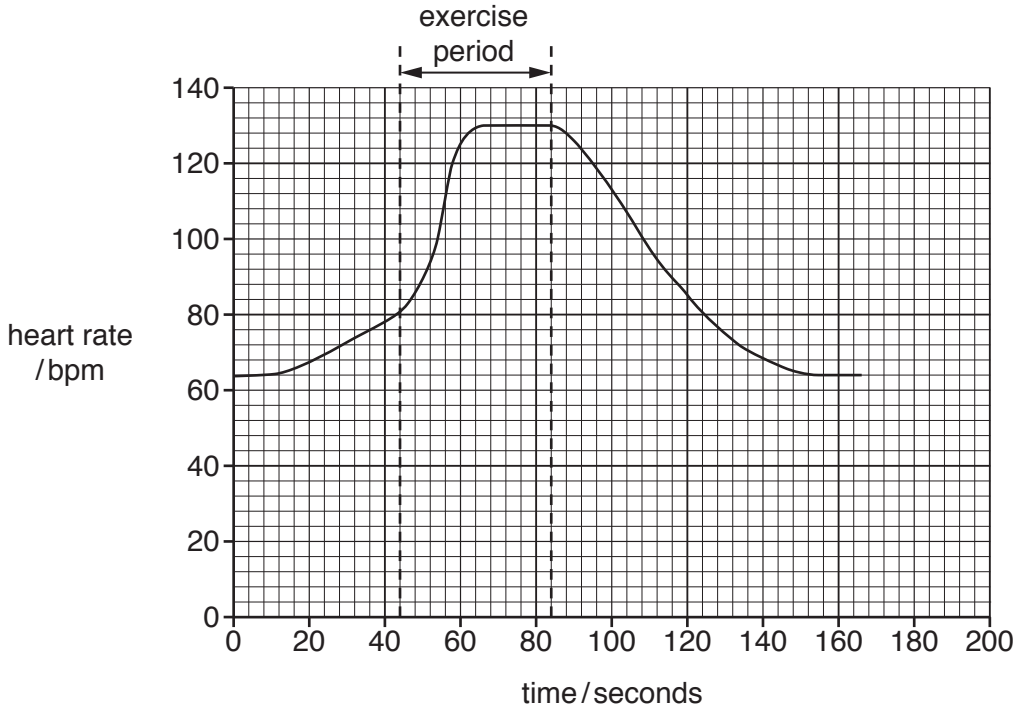
2 .....

.....

[2]

[Total: 7]

9 **(a)** The graph shows the heart rate of a performer before, during and after an intense exercise session.



(i) Calculate the difference between the heart rate at 0 seconds and the highest heart rate shown on the graph.

..... [1]

(ii) Calculate the duration of the exercise.

..... seconds [1]

(b) Describe how Excess Post-exercise Oxygen Consumption (EPOC) aids recovery after exercise.

.....

.....

.....

.....

.....

..... [3]

[Total: 5]

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10 Describe how **two** functions of the skeleton provide a benefit for a performer in a named physical activity.

physical activity .....

function 1 .....

benefit .....

.....

.....

function 2 .....

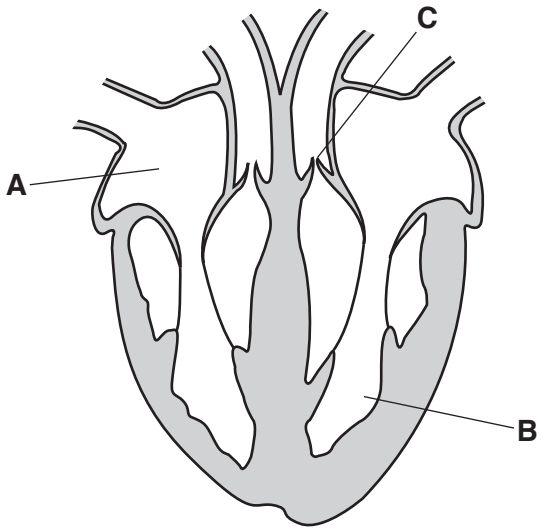
benefit .....

.....

.....

[4]

11 The diagram shows the heart with three structures labelled **A**, **B** and **C**.



(a) Identify the structures labelled **A**, **B** and **C** and describe a different function of each structure.

A .....

function .....

.....

.....

B .....

function .....

.....

.....

C .....

function .....

.....

.....

[6]

(b) Describe the long-term effects of regular exercise on the heart.

.....

.....

.....

.....[2]

[Total: 8]

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12 The diagram shows athletes competing in a sprint race.



(a) Describe **two** exercises that an athlete could use as part of a warm up. Suggest a different physiological benefit of each exercise.

exercise 1 .....

.....

benefit .....

.....

exercise 2 .....

.....

benefit .....

.....

[4]

(b) Suggest **two** psychological benefits an athlete could gain from a warm up.

1 .....

.....

2 .....

.....

[2]

[Total: 6]

13 **(a)** Define the term *VO_2 max*.

.....

..... [1]

(b) The diagrams show performers in three different athletic activities.



sprint hurdler



1500-metre runner



javelin thrower

Identify which **one** of these activities generally requires the higher VO_2 max.

Give **two** reasons why this activity requires a high VO_2 max.

activity .....

reason 1 .....

.....

reason 2 .....

.....

[3]

[Total: 4]

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14 (a) A basketball player has set themself the following target:

'Score a personal best of 12 points in a game by the end of the season.'

Explain if this target meets each of the following goal-setting principles. Give a reason for each of your answers.

specific .....

.....

measurable .....

.....

agreed .....

.....

time-phased .....

.....

[4]

(b) Suggest possible causes of anxiety when performing in physical activity.

.....

.....

.....

.....

.....

..... [3]

(c) Receiving feedback can reduce the anxiety of a performer.

Explain **three** other benefits of feedback.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

[Total: 10]

15 (a) Complete the table to show different positive and negative effects of technology on each group involved in sport.

group	positive effect	negative effect
officials		referees are put under greater pressure to get decisions right
the audience/spectators	different camera views / slow-motion replays allow people to develop a better understanding of the sport	
the sport/event	easier and cheaper to advertise events through social media	

[3]

(b) Describe **two** benefits that the internet and social media provide for a performer.

1 .....

.....

2 .....

.....

[2]

[Total: 5]

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16 **(a)** Describe the function of the intercostal muscles in normal breathing.

.....

.....

.....

..... [2]

(b) Minute ventilation increases during exercise.

Define the term *minute ventilation* and describe **two** benefits of an increased minute ventilation during exercise.

definition .....

.....

benefit 1 .....

.....

benefit 2 .....

.....

[3]

(c) Describe the changes, if any, in each of the following breathing volumes during exercise:

residual volume .....

.....

tidal volume. .....

.....

[2]

[Total: 7]

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