Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

8281052619

PHYSICAL EDUCATION **0413/11**

Paper 1 Theory **October/November 2021**

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.
- You should show all your working and use appropriate units.

INFORMATION

- The total mark for this paper is 100.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages. Any blank pages are indicated.

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[Turn over

1 One function of the skeleton is protection.

Identify **two** other functions of the skeleton.

1 .....

2 .....

[2]

2 **(a)** **(i)** Identify **two** components of fitness, other than speed, that may be required by a 100-metre sprinter during a race. Justify each of your answers.

component of fitness 1 .....

justification .....

.....

component of fitness 2 .....

justification .....

.....

[2]

(ii) Describe how to carry out a named test of speed.

name of test .....

description .....

.....

.....

.....

.....

.....

[4]

(iii) Suggest **three** reasons for carrying out a fitness test.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

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(b) High-Intensity Interval Training (HIIT) is a method of training that could benefit a 100-metre sprinter.

Describe **two** advantages and **two** disadvantages of using this method of training.

advantages

1 .....

.....

2 .....

.....

disadvantages

1 .....

.....

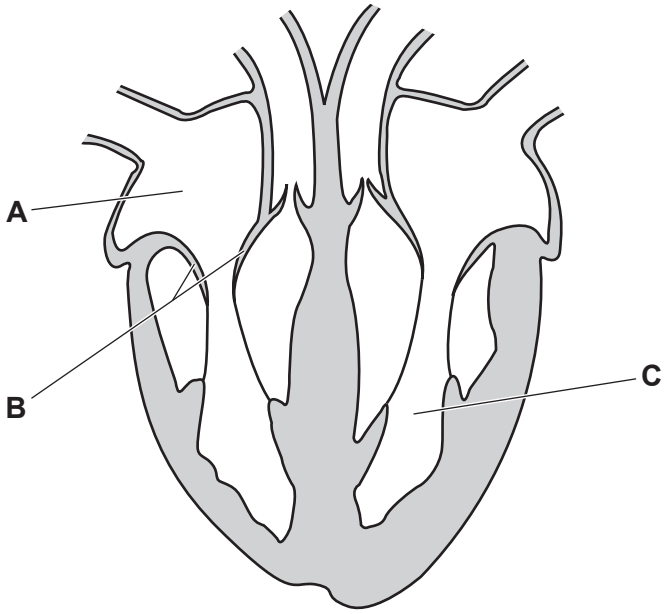
2 .....

.....

[4]

[Total: 13]

3 The diagram shows the human heart with structures labelled **A**, **B** and **C**.



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

A .....

function .....

.....

B .....

function .....

.....

C .....

function .....

.....

[6]

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

1 .....

.....

2 .....

.....

[2]

[Total: 8]

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4 **(a)** Define the term *fitness*.

.....

..... [1]

(b) Suggest **two** lifestyle choices that can benefit health and fitness.

1 .....

.....

2 .....

.....

[2]

(c) Explain how exercise and fitness can have **two** positive effects on each of the following:

physical health and well-being

1.....

.....

2 .....

.....

mental health and well-being.

1 .....

.....

2 .....

.....

[4]

[Total: 7]

5 The photograph shows a swimmer performing the front crawl stroke.



(a) Identify **three** skill classification continua. Justify a classification of the front crawl stroke on each continuum.

continuum 1 ..... and .....

classification .....

justification .....

.....

.....

continuum 2 ..... and .....

classification .....

justification .....

.....

.....

continuum 3 ..... and .....

classification .....

justification .....

.....

.....

[6]

(b) Describe an example of each of the following characteristics of a skilled performance in a named physical activity.

physical activity .....

aesthetically pleasing .....

.....

coordinated .....

.....

goal-directed .....

.....

[3]

[Total: 9]

6 **(a)** Suggest **two** possible causes of a ligament injury in a named games activity.

games activity .....

1 .....

.....

2 .....

.....

[2]

(b) The RICE method can be used to treat ligament injuries.

Identify **two** components of the RICE method. Suggest a different benefit of each component.

component of RICE method 1 .....

benefit .....

.....

component of RICE method 2 .....

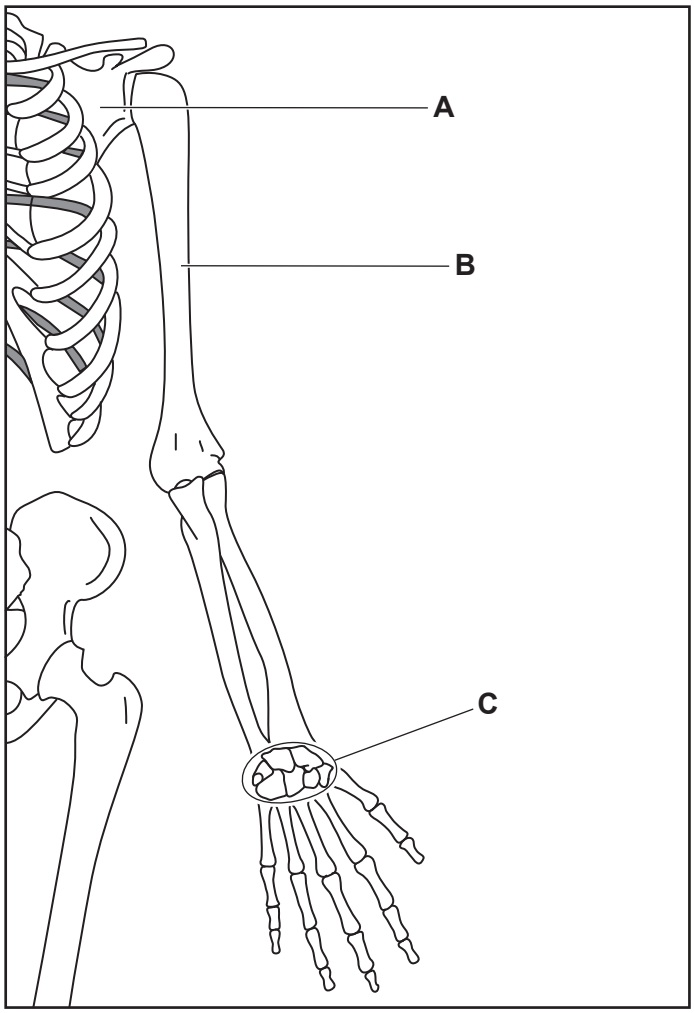
benefit .....

.....

[4]

[Total: 6]

7 The diagram shows part of the skeleton with bones labelled **A**, **B** and **C**.



Complete the table to state the name and the classification of the bones labelled **A**, **B** and **C**.

	name	classification
A		
B		
C		

[6]

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8 **(a)** Identify the main type of respiration that would release energy throughout an endurance activity. State an equation for this type of respiration.

main type of respiration .....

equation

[3]

(b) Explain why a performer can only sprint for short distances.

.....

.....

.....

..... [2]

(c) Explain how **two** factors, other than a cool down, can affect the recovery time of a performer.

1 .....

.....

2 .....

.....

[2]

[Total: 7]

9 Identify **two** forces that act on a ball when it is kicked and moves through the air. Describe how each force acts on the ball.

force 1 .....

description .....

.....

force 2 .....

description .....

.....

[4]

10 Describe, using a named physical activity, an exercise that would be appropriate for each of the following phases of a warm up.

physical activity .....

pulse raiser .....

.....

.....

.....

stretches .....

.....

.....

.....

familiarisation / skill-related activities .....

.....

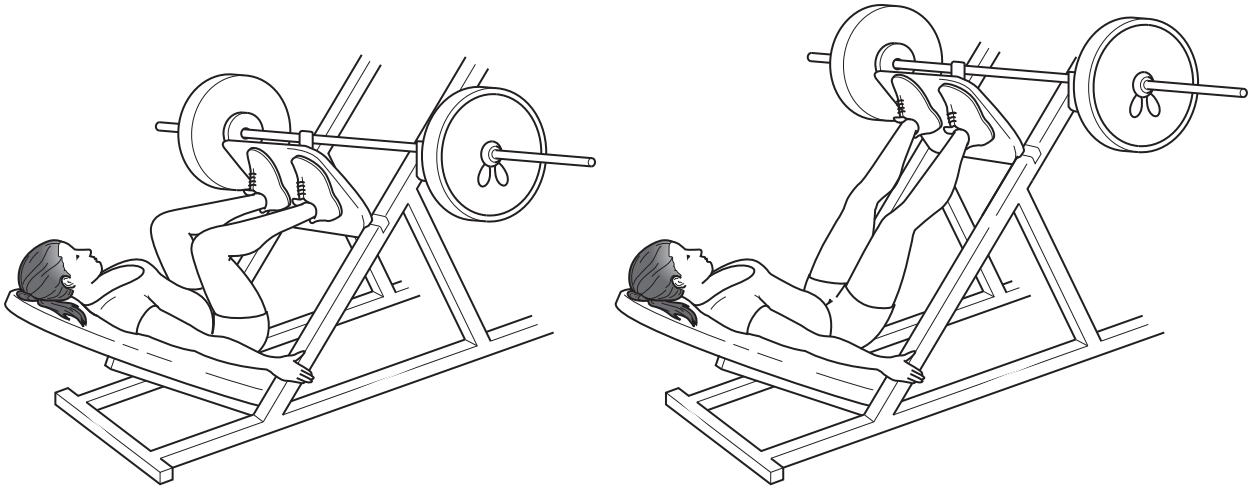
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.....

[3]

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11 The diagrams show a performer carrying out a weight-training exercise that includes movement at the knee joint.



A **B**

(a) Complete the table to identify the following:

the type of synovial joint at the knee	
the type of movement at the knee joint from **A** to **B**	
the agonist muscle causing the movement at the knee joint from **A** to **B**	
the antagonist muscle during the movement at the knee joint from **A** to **B**	
two bones that form the knee joint.	bone 1
	bone 2

[6]

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(b) Suggest why a protein-rich diet is important when weight training.

.....

.....

.....

..... [2]

(c) Fats are another component of a performer's diet.

Describe **one** function of fats.

.....

..... [1]

[Total: 9]

12 The photograph shows rock climbers using an artificial wall.



(a) Describe how **three** strategies could reduce the real risk to rock climbers.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(b) Describe what is meant by the term *perceived risk*.

.....

..... [1]

(c) Describe **two** examples of perceived risks for a rock climber at the cognitive stage of learning.

1 .....

.....

2 .....

.....

[2]

[Total: 6]

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13 **(a)** Describe a difference between skill and ability.

.....

..... [1]

(b) Explain how **two** named factors can affect variations in skill level.

factor 1 .....

explanation .....

.....

factor 2 .....

explanation .....

.....

[4]

(c) Output is one stage of a basic information processing model.

Describe how **two** other named stages of a basic information processing model are used in a named physical activity.

physical activity .....

stage 1 .....

description .....

.....

stage 2 .....

description .....

.....

[4]

(d) Performance of skills depends on memory.

Describe differences between short-term memory and long-term memory.

.....

.....

.....

..... [2]

[Total: 11]

14 (a) Describe each of the following:

tidal volume .....

.....

minute ventilation .....

.....

vital capacity. .....

.....

[3]

(b) Describe the mechanics of breathing during inhalation.

.....

.....

.....

.....

.....

.....

.....

..... [4]

[Total: 7]

15 As part of their education, school children may receive different forms of extrinsic motivation to encourage participation in physical activity.

Suggest **two** examples of this type of motivation that schools may provide.

1 .....

2 .....

[2]

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