Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

7705690753

PHYSICAL EDUCATION **0413/12**

Paper 1 Theory **May/June 2022**

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.

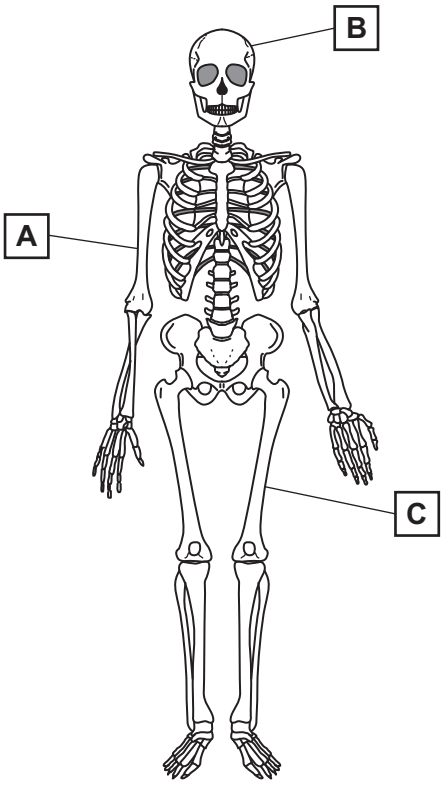
INFORMATION

- 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 **20** pages. Any blank pages are indicated.

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1 The diagram shows a human skeleton with bones labelled **A**, **B** and **C**.



(a) Identify the bone labelled **A**.

..... [1]

(b) Classify the bone labelled **B**.

..... [1]

(c) Describe a function of the bone labelled **C**.

.....

..... [1]

[Total: 3]

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2 **(a)** Describe **two** named types of anxiety.

type of anxiety 1 .....

description .....

.....

type of anxiety 2 .....

description .....

.....

[4]

(b) Suggest a factor that could cause a performer to feel anxious during a physical activity.

.....

..... [1]

(c) Explain how **one** named relaxation technique may be used to reduce a performer's anxiety.

technique .....

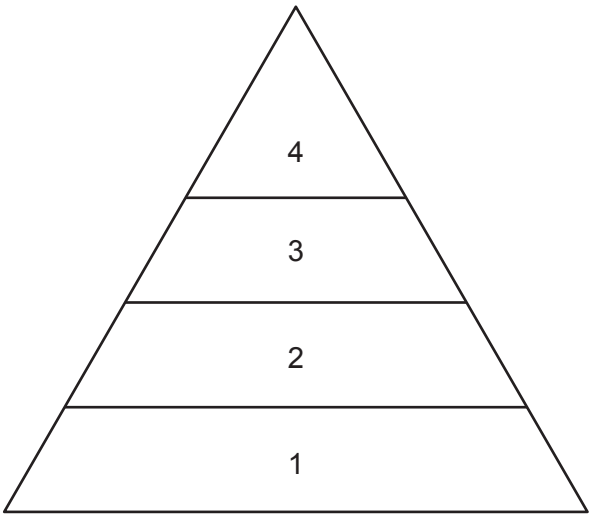
explanation .....

.....

[2]

[Total: 7]

3 The diagram shows the sports development pyramid.



(a) Identify the levels of the sports development pyramid labelled 2 and 4.

level 2 .....

level 4 .....

[2]

(b) Describe **three** characteristics of involvement at the performance level.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(c) Suggest the role schools and education could play for performers at level 1 on the sports development pyramid.

.....

.....

.....

..... [2]

[Total: 7]

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4 State **two** parts of the RICE method for treating injuries and describe a different benefit of each treatment for a performer.

part 1 .....

benefit .....

.....

part 2 .....

benefit .....

.....

[4]

5 The diagram shows a rugby player using strength to tackle an opponent.



(a) Describe how to carry out a named test for strength.

name of test .....

description .....

.....

.....

.....

.....

.....

[4]

(b) **(i)** To improve strength some rugby players may use weight training as part of their training programme.

Explain **two** advantages of using this type of training for a rugby player.

1 .....

.....

2 .....

.....

[2]

(ii) Describe **two** safety considerations when taking part in weight training.

1 .....

.....

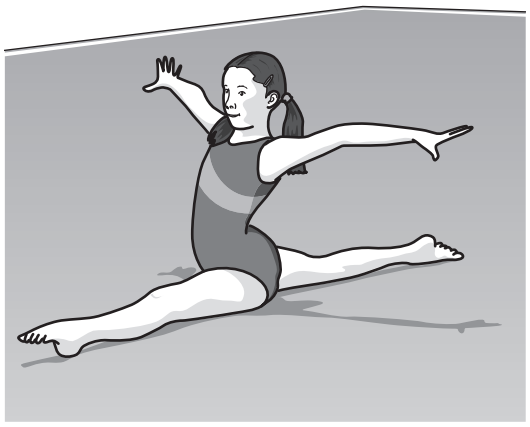
2 .....

.....

[2]

[Total: 8]

6 The diagram shows a gymnast during a performance.



(a) Describe the following muscle contraction types, giving a different example of how each contraction may be used in gymnastics.

concentric muscle contraction

description .....

.....

example .....

.....

eccentric muscle contraction

description .....

.....

example .....

.....

isometric muscle contraction

description .....

.....

example .....

.....

[6]

(b) State **two** named types of movement possible at the ankle joint.

Describe a different example of how each type of movement may be used in a named physical activity.

physical activity .....

type of movement 1 .....

.....

example .....

.....

type of movement 2 .....

.....

example .....

.....

[4]

[Total: 10]

7 Sponsorship is needed to fund a global event such as the Olympic Games.

(a) Suggest **three** advantages for sponsors of the Olympic Games.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(b) Describe **three** advantages for performers representing the host nation at a global event.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(c) Amateur and professional performers may compete against each other at the Olympic Games.

Suggest **three** advantages that professional performers may have when competing against amateur performers.

1 .....

.....

2 .....

.....

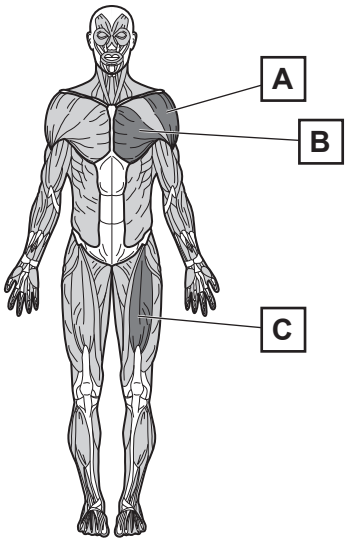
3 .....

.....

[3]

[Total: 9]

8 The diagram shows the location of muscles in the body labelled **A**, **B** and **C**.



(a) Identify the muscles **A** and **B**.

A .....

B .....

[2]

(b) Identify muscle **C** and describe its role during extension at the knee.

muscle **C** .....

role .....

.....

[2]

(c) Compare the following features of fast twitch muscle fibres and slow twitch muscle fibres:

fatigue tolerance .....

.....

force created. .....

.....

[2]

[Total: 6]

9 **(a)** Identify **two** characteristics of the alveoli and explain how each characteristic enables gaseous exchange to take place.

characteristic 1 .....

explanation .....

.....

.....

characteristic 2 .....

explanation .....

.....

.....

[4]

(b) Residual volume is a breathing volume.

Describe **two** other named breathing volumes and state the effect of exercise on each volume.

volume 1 .....

description .....

.....

effect of exercise .....

volume 2 .....

description .....

.....

effect of exercise .....

[6]

[Total: 10]

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10 The quality of teaching and coaching can affect the skill level of a performer.

(a) Explain **four** other factors that could cause the skill level of performers to differ.

1 .....

.....

2 .....

.....

3 .....

.....

4 .....

.....

[4]

(b) Suggest **two** reasons why extrinsic motivation is important for a performer.

1 .....

.....

2 .....

.....

[2]

[Total: 6]

11 The table shows the heart rate of a performer exercising and resting over a period of time.

time / minutes	0	1	2 (exercise starts)	3	4	5	6	7 (exercise ends)	8	9	10	11	12
heart rate / beats per minute	64	64	72	90	115	125	125	125	110	85	70	64	64

(a) Using the data in the table, plot a graph of heart rate (vertical axis) against time (horizontal axis) on the grid provided.

Start your scale at 0,0.

heart rate / beats per minute



time / minutes

[3]

(b) Draw a second line on the graph to show the heart rate of an elite performer completing the same training session. [3]

(c) Other than an increase in heart rate, describe **three** short-term effects of exercise.

1 .....

.....

2 .....

.....

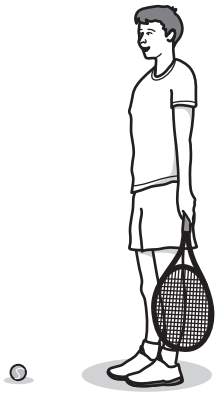
3 .....

.....

[3]

[Total: 9]

12 The diagram shows a beginner playing tennis.



Performers progress through the cognitive, associative and autonomous stages of learning when learning a new skill.

(a) Explain, using a skill from tennis, a different characteristic of the performance of the skill at each of the following stages of learning.

example of skill .....

cognitive stage characteristic .....

.....

associative stage characteristic .....

.....

autonomous stage characteristic .....

.....

[3]

(b) Short-term memory can only hold information for a short period of time compared to long-term memory.

Compare **two** other differences between short-term memory and long-term memory.

1 .....

.....

2 .....

.....

[2]

(c) **(i)** Explain the concept of limited channel capacity (single-channel hypothesis).

.....

..... [1]

(ii) Suggest how an understanding of limited channel capacity may affect how a coach provides guidance to a performer.

.....

..... [1]

[Total: 7]

13 **(a)** Describe, using different examples, how technology has improved the decision-making of officials.

example 1 .....

.....

.....

example 2 .....

.....

.....

example 3 .....

.....

.....

[3]

(b) Describe **three** examples of negative impacts of using technology for a sport.

example 1 .....

.....

example 2 .....

.....

example 3 .....

.....

[3]

[Total: 6]

14 **(a)** Describe the relationship between health and fitness.

.....

..... [1]

(b) Explain how **three** different lifestyle choices may affect a person's physical health.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(c) Explain **two** positive effects that exercise and fitness can have on a person's mental health.

1 .....

.....

2 .....

.....

[2]

[Total: 6]

15 Describe an example of each of the following class of levers being used in a named physical activity.

physical activity .....

first class lever example .....

.....

third class lever example .....

.....

[2]

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