Cambridge IGCSE

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Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

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2012305688

PHYSICAL EDUCATION **0413/13**

Paper 1 Theory **October/November 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 **18** printed pages and **2** blank pages.

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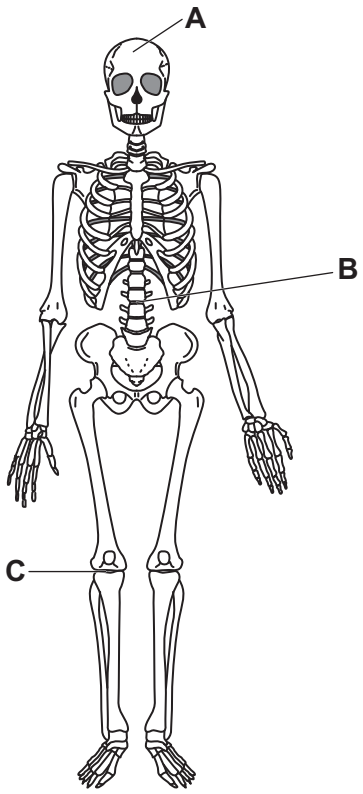
[Turn over

1 State **two** requirements for good social health and well-being.

1 .....

2 .....
[2]

2 **(a)** The diagram shows a human skeleton.



(i) State the type of joint at **A** and at **B**.

A .....

B .....
[2]

(ii) The joint at **C** is a type of synovial joint.

Name this type of synovial joint and describe the function of **two** components in a synovial joint.

type of synovial joint .....

component 1 .....

function .....

.....

component 2 .....

function .....

.....

[5]

(b) Name **three** types of movement that can occur at the hip joint.

1 .....

2 .....

3 .....

[3]

[Total: 10]

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[Turn over

3 **(a)** State a physical activity with an energy demand that is mainly aerobic.
Give a reason for your answer.

physical activity .....

reason .....

.....
[2]

(b) Describe, using examples of different situations from **three** named physical activities, when there is a change in energy demand.

physical activity 1 .....

example .....

.....

physical activity 2 .....

example .....

.....

physical activity 3 .....

example .....

.....
[3]

[Total: 5]

4 Draw and label a diagram of a second class lever.

[2]

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5 **(a)** Suggest **one** advantage for a performer of applying the principles of training to a training programme.

.....

..... [1]

(b) The photograph shows a performer swimming.



Explain how **two** named principles of training could be applied to the training programme of a swimmer.

principle of training 1 .....

application .....

.....

.....

principle of training 2 .....

application .....

.....

.....

[4]

(c) Suggest **three** benefits of high-altitude training for endurance athletes.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(d) Describe **three** long-term effects of regular exercise on the heart.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

[Total: 11]

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6 **(a)** Skills can be classified on different continua.

(i) Identify, from a named physical activity, **one** open skill and **one** closed skill. Justify your answers.

physical activity .....

open skill .....

justification .....

.....

closed skill .....

justification .....

.....

[4]

(ii) Explain, using an example of each, the difference between basic and complex skills.

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Name the first stage of learning and describe **two** characteristics of a performer at this stage.

first stage of learning .....

characteristic 1 .....

.....

.....

characteristic 2 .....

.....

.....

[3]

[Total: 11]

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7 Goals should be measurable, realistic and exciting.

Suggest, using a named physical activity, how each of these goal-setting principles can be applied.

physical activity .....

measurable .....

.....

.....

realistic .....

.....

.....

exciting .....

.....

.....

[3]

8 **(a)** The table shows approximate percentages of slow-twitch muscle fibres and fast-twitch muscle fibres for performers that have taken part in different physical activities.

physical activity	percentage of slow-twitch muscle fibres	percentage of fast-twitch muscle fibres
100 m/200 m sprinting	25	75
cross-country running	80	20

Suggest why the percentage of slow-twitch muscle fibres and the percentage of fast-twitch muscle fibres shown in the table benefits each of the following performers:

a 100 m/200 m sprinter

.....

.....

.....

.....

a cross-country runner.

.....

.....

.....

.....

[4]

(b) State **three** differences between slow-twitch muscle fibres and fast-twitch muscle fibres.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(c) Speed is a component of fitness required by sprinters.

Name a fitness test to measure speed and describe how to carry out this test.

name of test .....

description .....

.....

.....

.....

.....

.....

[4]

[Total: 11]

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9 **(a)** Explain how **two** characteristics of the alveoli enable gaseous exchange to occur in the lungs.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

[4]

(b) Describe what is meant by the term *tidal volume* and state how this changes during exercise.

description .....

.....

.....

change during exercise .....

[2]

[Total: 6]

10 Photograph **A** shows a shot putter and photograph **B** shows a long-distance runner.



A



B

(a) Compare the nutrient requirements of an elite shot putter with the nutrient requirements of an elite long-distance runner.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Describe **two** factors, other than the type of activity, that affect the energy needs of a performer.

1 .....

.....

2 .....

.....

[2]

(c) Explain different ways energy from food sources can be stored or released by the body.

.....

.....

.....

.....

.....

.....

.....

..... [4]

[Total: 10]

11 (a) (i) Describe what is meant by the following terms:

cognitive anxiety .....

.....

somatic anxiety. .....

.....

[2]

(ii) Suggest **two** different causes of anxiety during performance.

1 .....

.....

2 .....

.....

[2]

(b) Describe **two** ways that a performer may try to control their anxiety during a named physical activity.

physical activity .....

1 .....

.....

2 .....

.....

[2]

(c) Describe how the optimal level of arousal varies for different skills.

.....

.....

.....

..... [2]

[Total: 8]

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12 (a) Describe, using **two** different examples, how manual or mechanical guidance can be used by a coach.

1 .....

.....

2 .....

.....

[2]

(b) Suggest why a coach should mainly use verbal guidance for a performer at the autonomous stage of learning.

.....

.....

.....

..... [2]

[Total: 4]

13 (a) Describe **two** real risks to performers in a named physical activity and suggest a strategy to reduce each risk.

physical activity .....

risk 1 .....

.....

strategy .....

.....

risk 2 .....

.....

strategy .....

.....

[4]

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

Other than ice, name **two** parts of the RICE method.

1 .....

2 .....

[2]

[Total: 6]

14 The diagram shows a performer kicking a ball.



(a) State what is meant by the term *force*.

.....

..... [1]

(b) Name **two** forces and explain how each force acts on the ball when it is in the air.

name of force 1 .....

explanation .....

.....

.....

name of force 2 .....

explanation .....

.....

.....

[4]

[Total: 5]

15 (a) Describe the role of haemoglobin in the blood.

.....

.....

.....

..... [2]

(b) Describe **two** functions of each of the following types of blood vessel:

artery

1 .....

.....

2 .....

.....

vein.

1 .....

.....

2 .....

.....

[4]

[Total: 6]

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