



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER



PHYSICAL EDUCATION

0413/01

Paper 1 Theory

For Examination from 2019

SPECIMEN PAPER

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 in the spaces at the top of this page.

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 marks for this paper is 100.

This document consists of **22** printed pages and **2** blank pages.

1 (a) Describe **two** benefits of a warm up to a performer.

1

.....

2

..... [2]

(b) Explain how stretching in a cool down aids recovery from exercise.

.....

.....

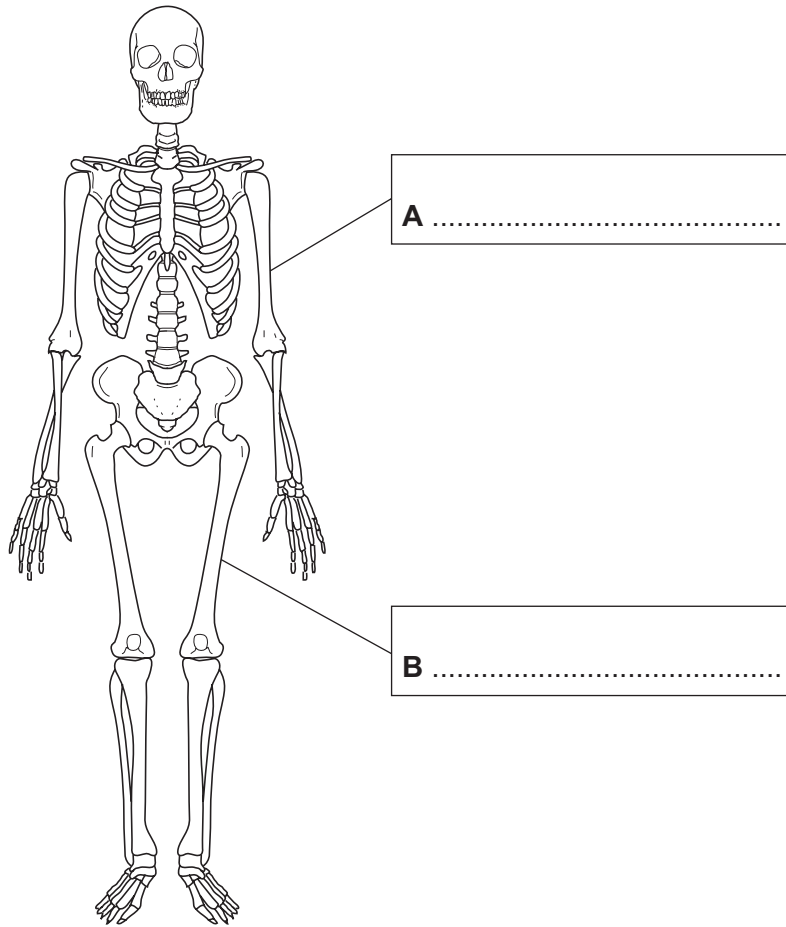
.....

..... [2]

[Total: 4]

2 The diagram shows the human skeleton.

Name bones **A** and **B**.



[2]

- 3 (a) The photographs show a professional football team and a local amateur youth team. Both teams have shirt sponsorship.



- (i) Suggest **one** advantage to the **sponsor** of sponsoring a local amateur youth team.

.....
..... [1]

- (ii) Suggest the benefits of sponsorship for a **professional sports team**.

.....
.....
.....
.....
.....
..... [3]

4 The diagram shows a volleyball player jumping to block the ball at the net.



(a) State the type of movement that has taken place at the elbow to allow the player to get into the blocking position.

..... [1]

(b) (i) Name the energy system that has been used by the player when jumping to block the ball at the net.

..... [1]

(ii) Explain why the energy system in (b)(i) is used by the player when jumping to block the ball at the net.

.....
..... [1]

(c) Plyometric training is used to improve jumping ability.

(i) Describe what is meant by the term *plyometric training*.

.....
..... [1]

(ii) Name **two** exercises that could be used as part of a plyometric training session.

1

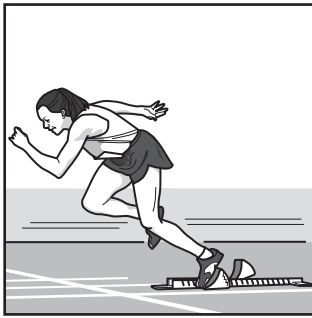
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2

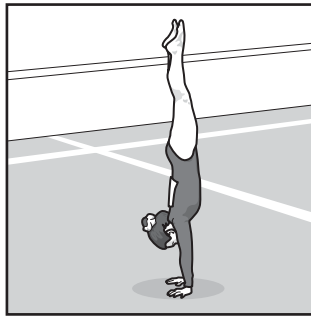
..... [2]

[Total: 6]

5 The diagrams show performers using different components of fitness.



A



B



C

(a) Diagram A shows a sprinter using reaction time at the start of a race.

(i) Define the term *reaction time*.

.....
 [1]

(ii) Describe, using examples from **two** different physical activities, the importance of reaction time to a performer.

physical activity 1

.....

.....

physical activity 2

.....

..... [2]

(b) Diagram B shows a gymnast holding a position.

(i) State the component of fitness that allows the gymnast to hold the position in diagram B.

..... [1]

(ii) Name and describe a recognised test that would measure this component of fitness.

name

description

.....

.....

.....

.....

.....

..... [4]

(c) Diagram C shows a rugby player using agility.

Explain how agility may provide an advantage to a performer in a named physical activity other than rugby.

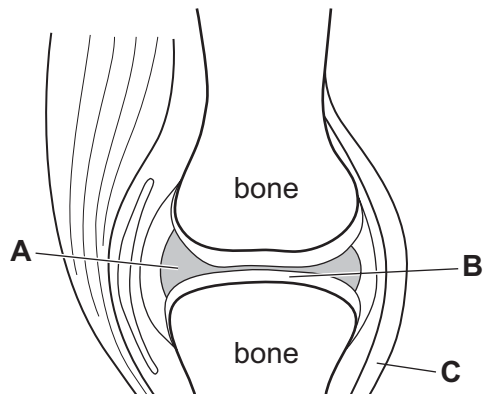
activity

explanation

..... [1]

[Total: 9]

6 The diagram shows a synovial joint.



(a) Name the components labelled **A** and **B** in the diagram.

A

B [2]

(b) (i) Explain how component **C** provides stability for a synovial joint.

.....
.....
.....
..... [2]

(ii) Games players have a high risk of injury and damage to component **C**.

Suggest why.

.....
.....
.....
..... [2]

[Total: 6]

7 State **two** features that determine a person's social health and well-being.

1

.....

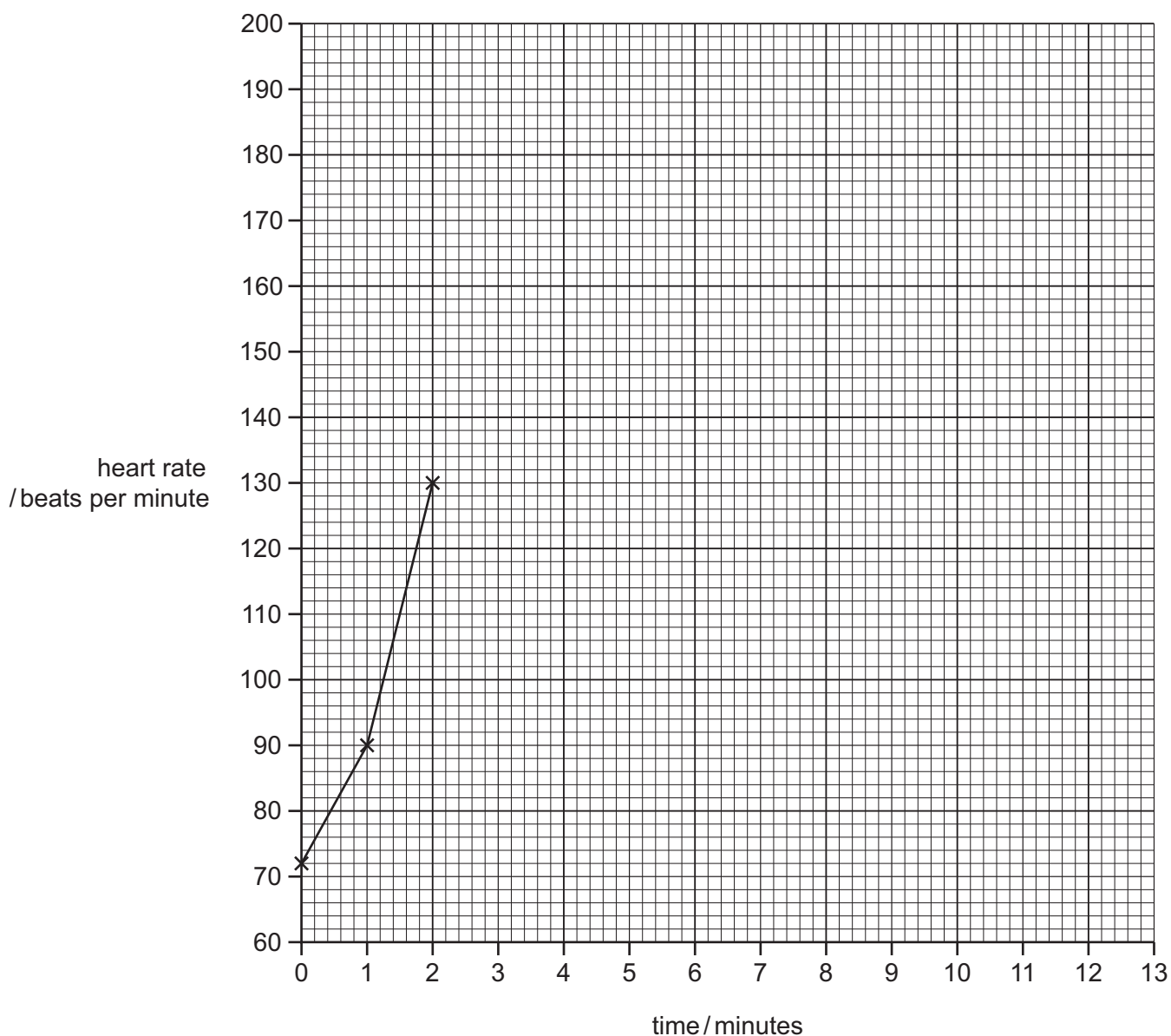
2

..... [2]

- 8 (a) The table shows a performer's heart rate at rest, during activity and during cool down. The activity is performed at a constant level of intensity until cooling down. The resting heart rate is 72 beats per minute.

time / minutes	0	1	2	3	4	5	6	7	8	9	10	11	12	13
heart rate / beats per minute	72	90	130	170	170	170	170	170	170	150	130	110	72	72

- (i) Plot the data from the table onto the graph to make a line graph. The first three points have been done for you.



[2]

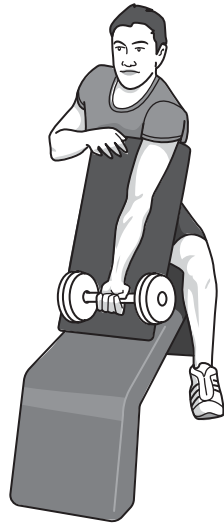
- (ii) Add an **A** to the graph to indicate when the cool down starts.

[1]

- (iii) Identify the highest heart rate.

..... beats per minute [1]

9 (a) The diagrams show a performer weight training.



A



B

(i) State the type of movement that has taken place at the elbow between **A** and **B**.

.....
..... [1]

(ii) Explain how the antagonistic muscle pair allows movement at the elbow from **A** to **B**.

.....
.....
.....
..... [2]

(b) (i) Suggest **three** physiological benefits to a performer of using weight training.

1
.....
2
.....
3
..... [3]

(ii) Describe the **two** ways that isotonic weight training can be used. Explain, using examples from the same named physical activity, how each way benefits performance.

physical activity

1

.....

.....

.....

2

.....

.....

..... [4]

[Total: 10]

10 (a) State **one** reason why a performer would choose to take part in a particular sport.

.....
..... [1]

(b) Describe how a coach should give feedback to a cognitive performer.

.....
.....
.....
..... [2]

(c) Suggest **two** factors that can affect a performer trying to achieve elite status.

1

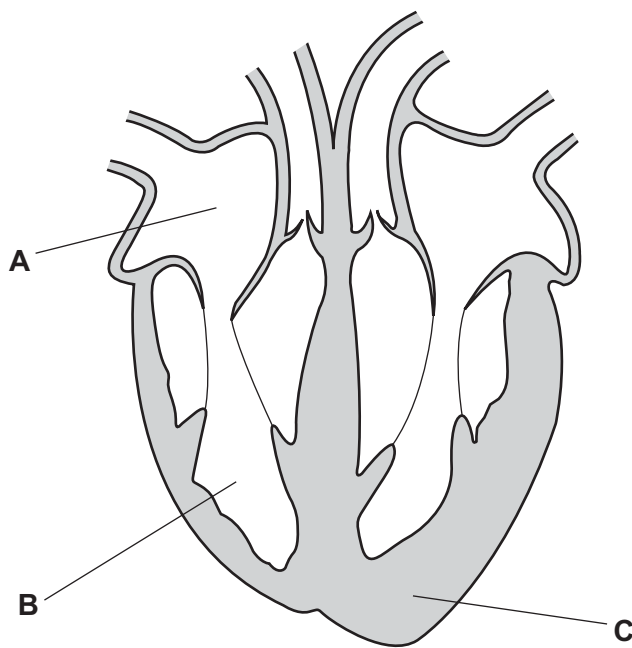
.....

2

..... [2]

[Total: 5]

11 The diagram shows a section through the human heart.



(a) Name the areas of the heart labelled **A** and **B**.

A

B [2]

(b) State the function of valves in the heart.

.....
 [1]

(c) Describe long-term changes to the heart as a result of regular aerobic exercise. Refer to the areas labelled **B** and **C** in your answer.

.....

 [3]

[Total: 6]

12 (a) State **one** feature of an open skill.

.....
..... [1]

(b) Explain why a named type of guidance is appropriate for a cognitive performer.

type of guidance

explanation

..... [2]

(c) There is usually rapid progress when a performer starts to learn a new physical activity.

Suggest **two** reasons for such progress.

1

.....

2

..... [2]

(d) Describe the characteristics of a performer during the autonomous stage of learning.

.....

.....

.....

..... [2]

(e) Explain how **three** of the SMARTER goal-setting principles can help a performer when learning a new skill.

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 10]

13 Photographs **A** and **B** show examples of artificial sports facilities that are built in some urban areas to allow people to have greater access.



A



B

(a) Suggest the advantages and disadvantages of this type of facility to a performer.

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Describe **two** pieces of clothing or equipment that should be used to ensure the safety of a performer in a named outdoor and adventurous activity.

outdoor and adventurous activity

clothing or equipment 1

.....

clothing or equipment 2

..... [2]

[Total: 6]

14 A balanced diet is important for health.

(a) Describe what is meant by a *balanced diet*.

.....
..... [1]

(b) Complete the table by naming **two** nutrients and a food source rich in each nutrient.

nutrient	food source rich in nutrient

[2]

[Total: 3]

15 (a) (i) Describe **one** characteristic of alveoli.

.....
..... [1]

(ii) Describe the process of gaseous exchange in the lungs.

.....
.....
.....
.....
.....
.....
..... [3]

(b) (i) What is meant by the term *vital capacity*?

.....
.....
.....
..... [2]

(ii) Describe the mechanics of breathing.

.....
.....
.....
.....
.....
.....
.....
.....
..... [4]

[Total: 10]

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