



Cambridge IGCSE™

CANDIDATE
NAME

CENTRE
NUMBER

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

CANDIDATE
NUMBER

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|



PHYSICAL EDUCATION

0413/11

Paper 1 Theory

May/June 2023

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.

1 Identify which two different components of blood are described.

component 1: consists mainly of water to allow substances to dissolve and be transported easily

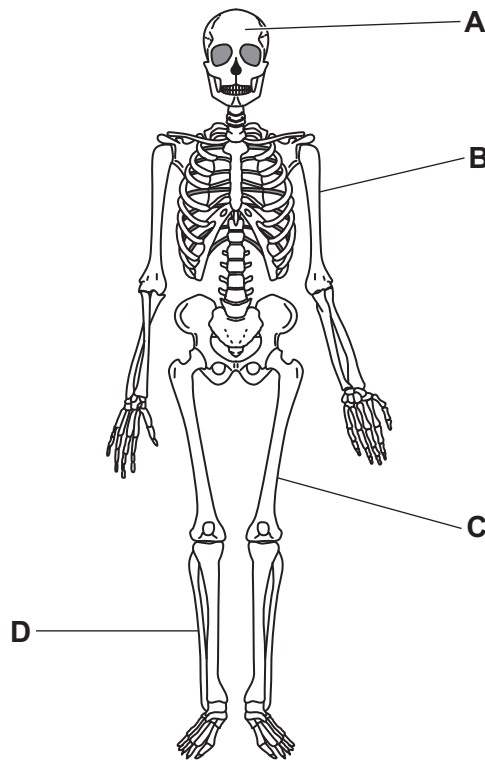
.....

component 2: contains an enzyme that causes blood to clot when there is a cut to the skin or damage to blood vessels

.....

[2]

2 (a) The diagram shows the human skeleton.



(i) Identify the bones labelled **A**, **B**, **C** and **D**.

A

B

C

D

[4]

- (ii) Explain, using examples from a named physical activity, **two** different functions of the skeleton provided by bone **A**.

physical activity

function 1

.....

example

.....

function 2

.....

example

.....

[4]

- (iii) Classify the bones labelled **A** and **B**.

A

B

[2]

[Total: 10]

- 3 The photograph shows a table tennis performer who requires good reaction time and coordination to play a backhand shot.

Content removed due to copyright restrictions.

- (a) Describe a named fitness test to measure reaction time.

name of test

description

.....
.....
.....
.....
.....
.....

[4]

- (b) Explain how **two** other named components of fitness may benefit a table tennis performer.

component of fitness 1

explanation

.....

component of fitness 2

explanation

.....

[4]

(c) The backhand shot in table tennis can be placed on different skill classification continua.

Justify where the backhand shot would be placed on a named skill classification continuum.

name of continuum

justification

.....

[2]

(d) A characteristic of a skilled performance is that it is aesthetically pleasing.

Describe, using examples from a named physical activity, **two** other characteristics of a skilled performance.

physical activity

characteristic 1

example

.....

characteristic 2

example

.....

[4]

[Total: 14]

4 Suggest **two** different examples of sportsmanship and **two** different examples of gamesmanship associated with a named physical activity.

physical activity

sportsmanship 1

.....

sportsmanship 2

.....

gamesmanship 1

.....

gamesmanship 2

.....

[4]

5 A coach may demonstrate a skill as a form of visual guidance.

(a) Suggest **two** advantages and **two** disadvantages for a performer when visual guidance is used.

advantage 1

.....

advantage 2

.....

disadvantage 1

.....

disadvantage 2

.....

[4]

(b) (i) Identify an example of manual / mechanical guidance in a named physical activity.

physical activity

example

.....

[1]

(ii) Describe an advantage that manual / mechanical guidance provides for a performer.

.....

..... [1]

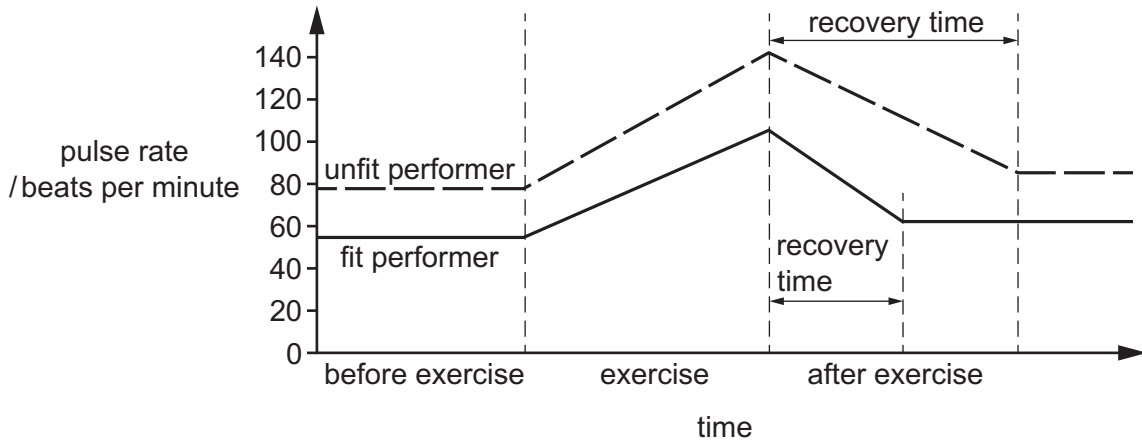
(c) Describe how goal-setting can help to control the anxiety of a performer.

.....

..... [1]

[Total: 7]

- 6 (a) The graph shows the pulse rate of a fit performer and an unfit performer when completing the same activity with the same level of intensity.



- (i) Describe **three** physiological reasons why the pulse rate of the unfit performer is higher than the pulse rate of the fit performer as shown on the graph.

1

.....

2

.....

3

.....

[3]

- (ii) Describe the process of Excess Post-exercise Oxygen Consumption (EPOC) during recovery.

.....

.....

.....

.....

.....

.....

[3]

- (b) Describe **one** named breathing volume that increases as a result of starting to exercise.

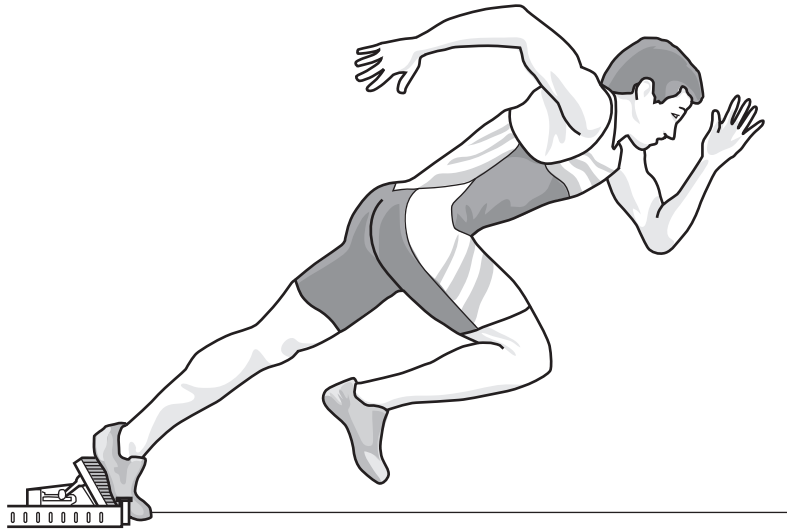
breathing volume

description

.....

[2]

7 The diagram shows a 100-metre sprinter at the start of a race.



(a) Identify **three** different forces acting on the 100-metre sprinter at the start of the race.

Explain how each force affects the sprinter.

force 1

explanation

.....

force 2

explanation

.....

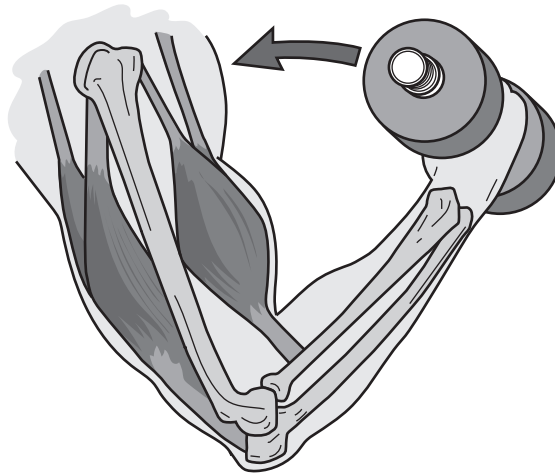
force 3

explanation

.....

[6]

(b) The diagram shows the upward phase of a bicep curl.



(i) Label the diagram to identify the fulcrum, resistance and effort in the upward phase of the bicep curl. [3]

(ii) State the class of lever being used in the upward phase of the bicep curl.

class of lever [1]

[Total: 10]

8 Different activities have different energy demands and training needs.

(a) Energy can be released aerobically or anaerobically depending on the demands made during the activity.

Complete the table by identifying a different activity to match the approximate percentage of aerobic and anaerobic demands for the activity.

| activity | approximate percentage of aerobic demand | approximate percentage of anaerobic demand |
|-----------|--|--|
| 1 | 5 | 95 |
| 2 netball | 60 | 40 |
| 3 | 95 | 5 |

[2]

(b) Describe **three** characteristics of fast-twitch muscle fibre types.

- 1
-
- 2
-
- 3
-

[3]

(c) (i) State the component of fitness measured by VO₂ max level.

..... [1]

(ii) Explain **two** named factors that can affect a performer's VO₂ max level.

- factor 1
- explanation
-
- factor 2
- explanation
-

[4]

(d) Explain **two** advantages and **two** disadvantages of high-altitude training for performers who take part in endurance events.

advantage 1

.....

advantage 2

.....

disadvantage 1

.....

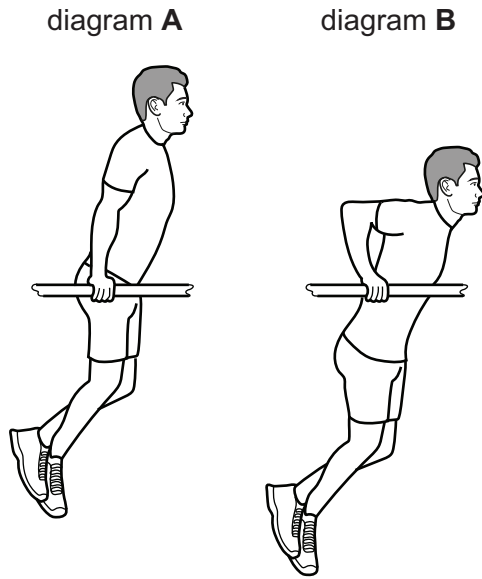
disadvantage 2

.....

[4]

[Total: 14]

9 The diagrams show a performer completing the downward phase of a dip on parallel bars.



Describe the named type of isotonic muscle contraction of the triceps being used in the movement from diagram A to diagram B.

muscle contraction

description

.....

[2]

10 If a performer does not drink enough fluids, dehydration can occur.

Describe **three** effects of dehydration on a performer.

1

.....

2

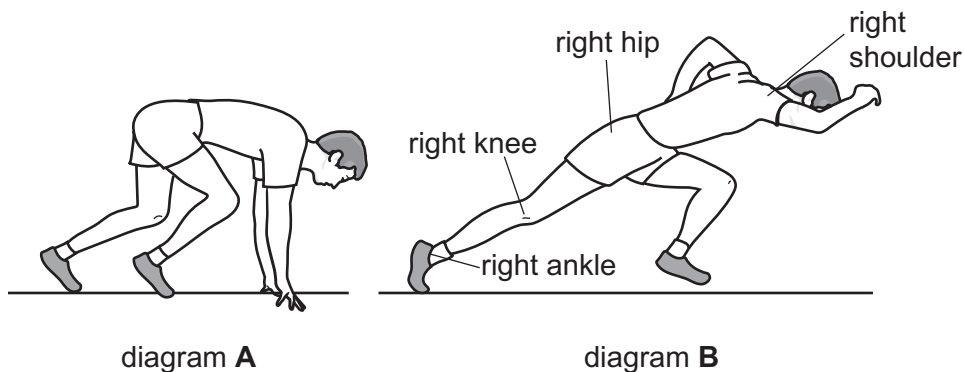
.....

3

.....

[3]

11 The diagrams show a sprinter starting a sprint race. Different joints are labelled.



(a) Complete the table to identify the type of movement at each labelled joint from diagram A to diagram B and the agonist muscle causing each movement.

| joint | type of movement | agonist muscle |
|----------------|------------------|----------------|
| right shoulder | | deltoid |
| right hip | extension | |
| right knee | extension | |
| right ankle | | |

[5]

(b) Describe the role of tendons.

.....
 [1]

[Total: 6]

12 Access to facilities can be a barrier to participation in physical activities for performers with a disability.

(a) Identify **two** other barriers that can affect participation of performers with a disability. Suggest a strategy to overcome each barrier named.

barrier 1

strategy

.....

barrier 2

strategy

.....

[4]

(b) The Paralympics is a global event for performers with disabilities.

Outline some advantages of being a host nation of a global event.

.....

.....

.....

.....

.....

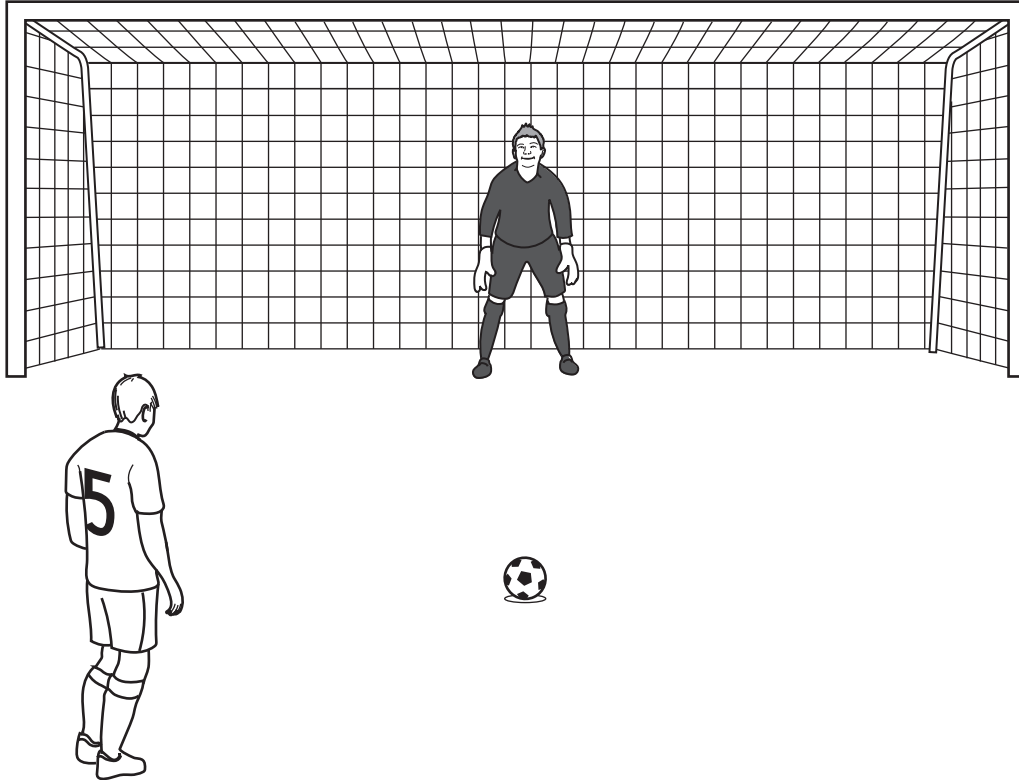
.....

.....

..... [4]

[Total: 8]

13 The diagram shows a player about to take a penalty kick in association football.



(a) Explain how each of the following stages of the information processing model are used by the player when taking the penalty kick:

input

.....

decision-making

.....

output

.....

feedback.

.....

[4]

(b) Explain **two** differences between short-term memory and long-term memory.

1

.....

2

.....

[2]

- 14 (a) A coach may test the fitness levels of a cross-country runner to see if the performer is suitable for the activity.

Describe **two** other reasons for testing the fitness levels of a performer.

1

.....

2

.....

[2]

- (b) Before every training session the cross-country runner completes a warm up which may reduce the risk of injury.

Describe **two** other ways the cross-country runner could reduce the risk of injury.

1

.....

2

.....

[2]

- (c) A cross-country runner may use continuous training as their main method of training.

Explain **two** advantages for a cross-country runner of using continuous training.

.....

.....

.....

.....

[2]

[Total: 6]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.