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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.

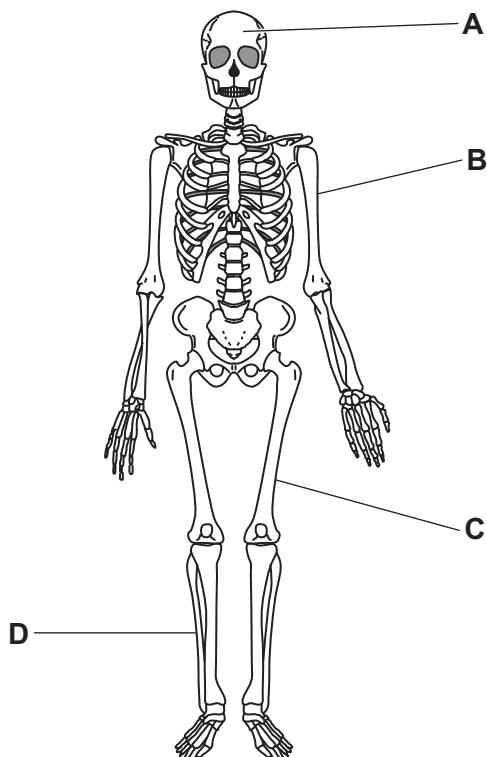
1 Identify which two different components of blood are described.

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.

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(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.

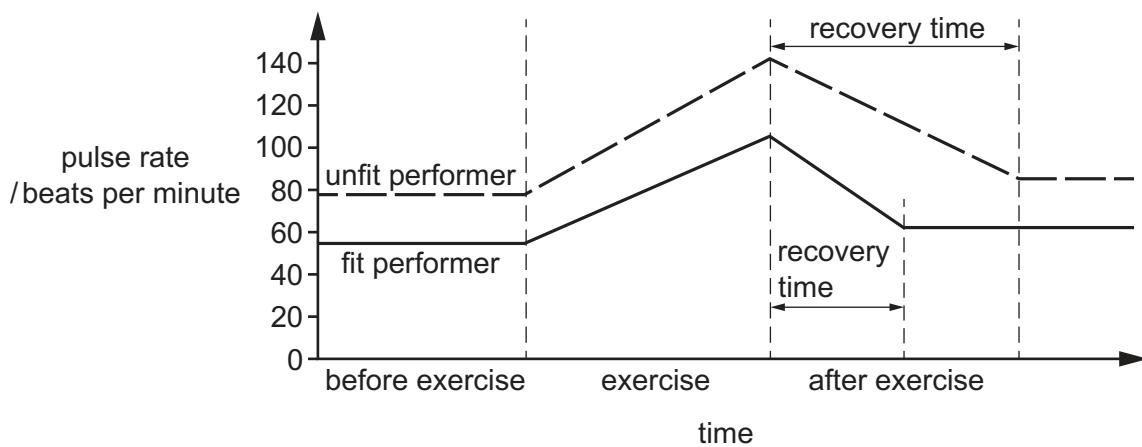
.....

.....

[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

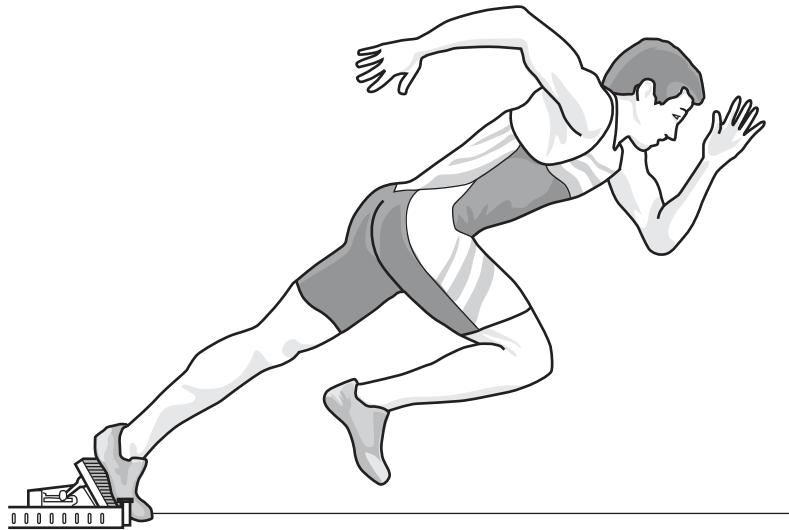
.....

[2]

[Total: 8]

[Turn over]

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

.....

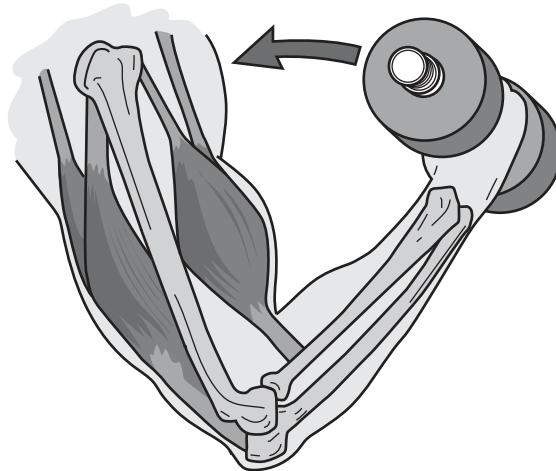
force 3

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 VO_2 max level.

..... [1]

(ii) Explain **two** named factors that can affect a performer's VO_2 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.

diagram A

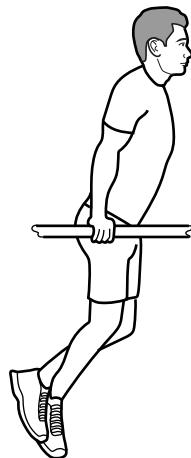
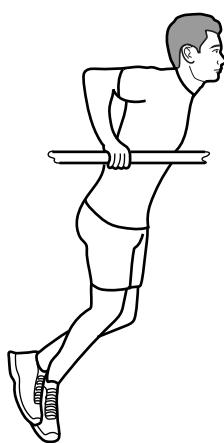


diagram B



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.

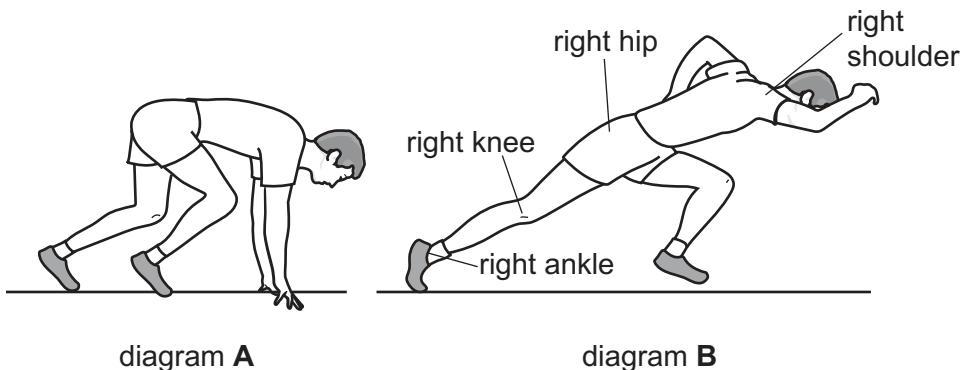
1

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]

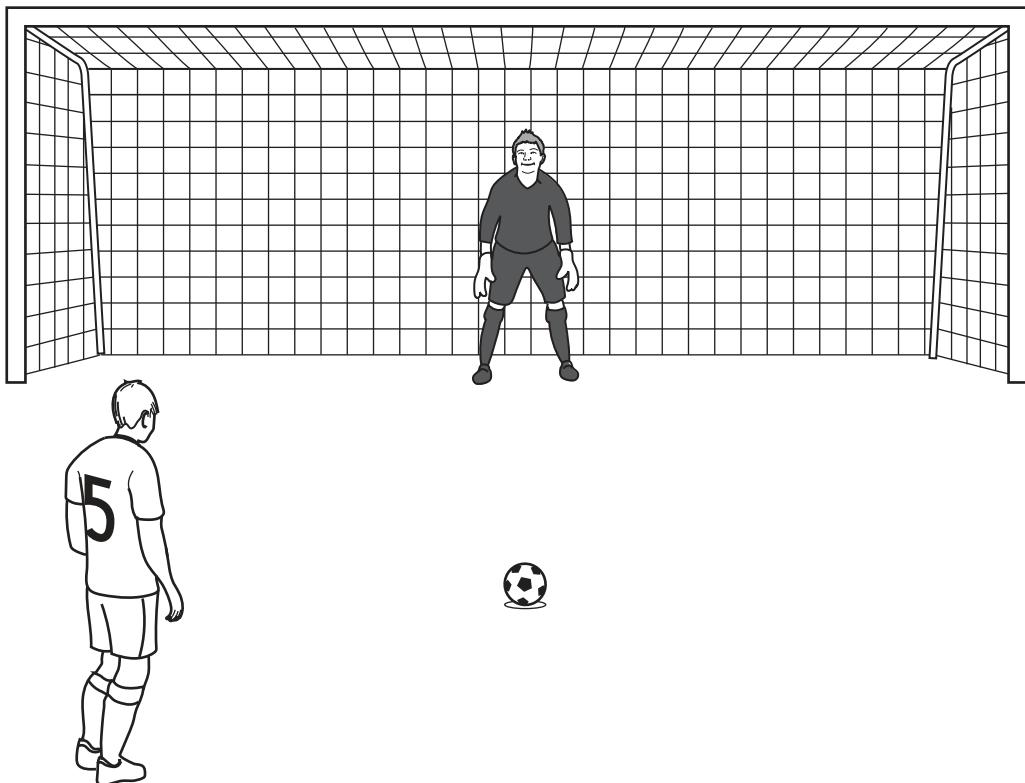
(b) The Paralympics is a global event for performers with disabilities.

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]

[Total: 6]

[Turn over]

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]

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