



Cambridge IGCSE™

CANDIDATE NAME



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PHYSICAL EDUCATION

0413/13

Paper 1 Theory

May/June 2024

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 (a) Red blood cells are one component of blood.

(i) Identify the substance found in red blood cells that carries oxygen and carbon dioxide.

..... [1]

(ii) Describe the function of **two** other named components of blood.

component 1

function

.....

component 2

function

.....

[4]

(b) Describe a different function of each of the following blood vessels:

arteries

.....

veins

.....

capillaries.

.....

[3]

[Total: 8]

2 (a) The skeleton provides both shape and support for the body.

Describe **three** other functions of the skeleton.

1

2

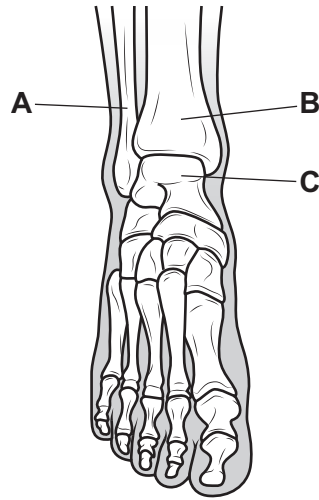
3

[3]





(b) The diagram shows some of the bones at the ankle joint.



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

A
B
C

[3]

(ii) Identify **two** types of movement that can take place at the ankle joint. Describe how these types of movement are used in a named physical activity.

physical activity

type of movement 1

description

.....

type of movement 2

description

.....

[4]

(c) Describe how **two** named muscles in the lower leg cause movement at the ankle joint.

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

[4]

[Total: 14]

[Turn over]



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3 Many people take part in recreational activities during their leisure time.

(a) Describe what is meant by leisure time.

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

(b) Describe how each of the following factors may influence what recreational activities people do in their leisure time:

peer influences
.....

facilities
.....

social circumstances.
..... [3]

(c) Describe how each of the following factors have led to a growth in leisure activities:

wider media coverage
.....

improvements in health care
.....

improvements in travel methods.
..... [3]

[Total: 7]

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4 The photograph shows performers in a game of basketball.



(a) Explain how the following components of fitness can benefit the performance of a basketball player:

power

.....

speed

.....

coordination

.....

balance.

.....

[4]



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(b) Cardiovascular endurance is another component of fitness needed by basketball players.

Name and describe a recognised fitness test that can be used to measure cardiovascular endurance.

name of fitness test

description

.....

.....

.....

.....

.....

..... [4]

(c) Elite basketball players have high levels of skill and ability.

Describe the difference between skill and ability.

.....

..... [2]

[Total: 10]

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5 The photograph shows a sprinter with a disability at the start of a race.



(a) Suggest how technology may be used to enhance the sprinter's performance.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) A sprinter uses anaerobic respiration to release energy.

(i) Outline the equation for anaerobic respiration.

..... [2]

(ii) Explain why the main form of respiration used by the sprinter is anaerobic.

.....

.....

.....

..... [2]

[Total: 8]



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6 Goal-setting principles are often used by a performer to help them work towards a target.

A 400-metre runner has spoken with their coach and wants to improve their time by 0.5 seconds before the end of the season.

Justify why this goal has met **three** named principles of goal-setting.

principle 1

justification

.....

principle 2

justification

.....

principle 3

justification

.....

[6]

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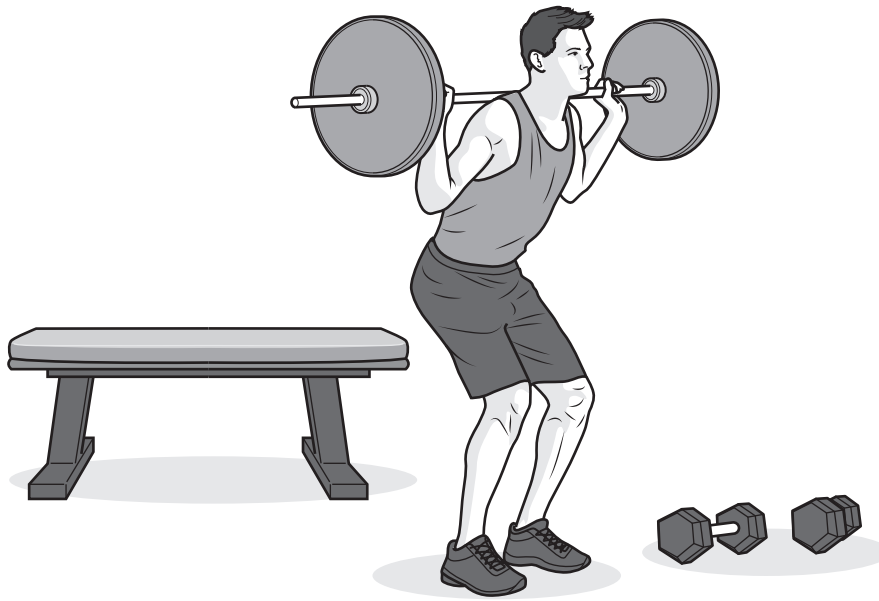
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7 The diagram shows a performer taking part in a weight training session.



(a) Describe **two** advantages of using weight training as a method of training.

1

.....

2

.....

[2]

(b) The principles of overload can be used to plan a suitable weight training programme.

Describe how a performer can apply the following principles of overload to a weight training programme.

frequency

.....

intensity

.....

time

.....

type

.....

[4]



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(c) Overtraining may happen if too much overload is applied in a training programme.

Suggest **two** dangers of overtraining for a performer.

1

2

[2]

[Total: 8]

8 The photographs **A** and **B** show risks that may be present when weight training.



A



B

(a) Describe the difference between real risk and perceived risk.

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

(b) Suggest a risk seen in photograph **A** and a different risk seen in photograph **B**. Describe a different strategy to reduce each risk.

photograph **A** risk

strategy

.....

photograph **B** risk

strategy

.....

[4]

[Total: 5]





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9 (a) Identify **two** different types of media coverage.

1

2

[2]

(b) Suggest **two** advantages and **two** disadvantages of media coverage for a performer.

advantage 1

.....

advantage 2

.....

disadvantage 1

.....

disadvantage 2

.....

[4]

[Total: 6]





10 The photograph shows an elite association football player dribbling the ball.



(a) Explain how the elite player may show **three** named characteristics of a skilled performance.

characteristic 1

explanation

.....

characteristic 2

explanation

.....

characteristic 3

explanation

.....

[6]

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(b) The association football player will use information processing to perform a skill.

Use a skill from association football to describe the use of each of the following stages of a basic information processing model:

skill

input

decision-making

output

feedback.

[4]

[Total: 10]

11 Force can be applied through a push or pull.

(a) Use a named physical activity to describe an example of each of the following:

physical activity

example of a push force being used

example of a pull force being used.

[2]

(b) Describe the relationship between acceleration, force and mass during physical activity.

[2]

[Total: 4]
[Turn over]



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12 The World Health Organization (WHO) has defined health using three aspects of well-being.

(a) Identify the **three** aspects of well-being.

- 1
- 2
- 3 [3]

(b) Explain how health can affect fitness levels.

.....

.....

.....

..... [2]

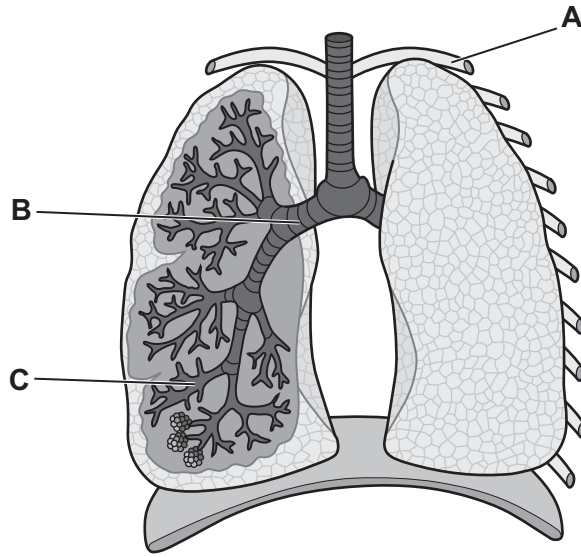
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13 The diagram shows parts of the respiratory system.



(a) Identify the parts of the respiratory system labelled A to C.

A

B

C

[3]

(b) Describe a function of each of the following:

trachea

.....

alveoli

.....

diaphragm.

.....

[3]

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(c) Complete the table to describe the breathing volumes and the effect that exercise has on each.

breathing volume	description	effect of exercise
tidal volume	the volume of air breathed in/out with each breath
vital capacity	no change
minute ventilation	increases

[3]

[Total: 9]

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