



# Cambridge IGCSE™

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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 .....

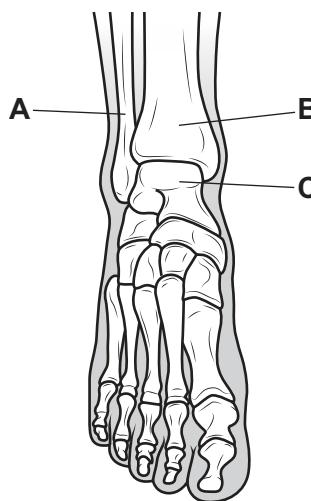
3 .....

[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]





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. ....

.....

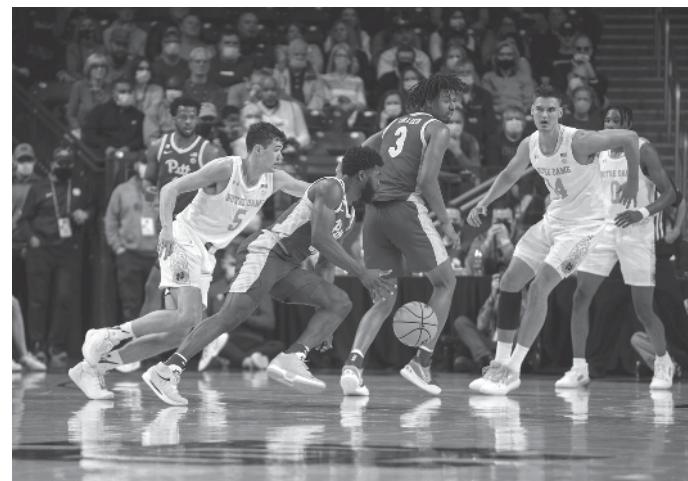
[3]

[Total: 7]





- 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]





- (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 .....

.....

.....

.....

.....

.....

.....

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

Describe the difference between skill and ability.

.....

.....

[2]

[Total: 10]





- 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]





- 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 .....

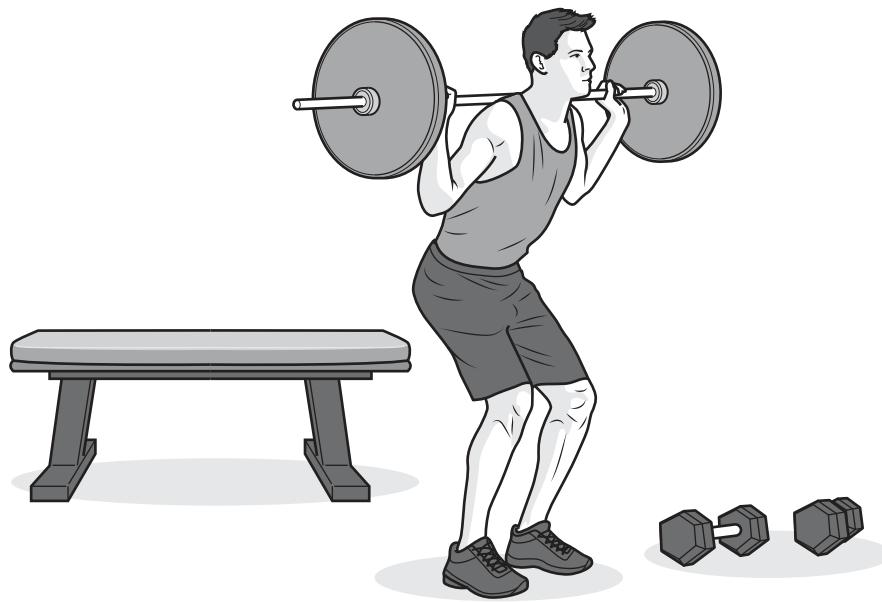
justification .....

[6]





- 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]





- (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]





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]





- (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]





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]

[Total: 5]

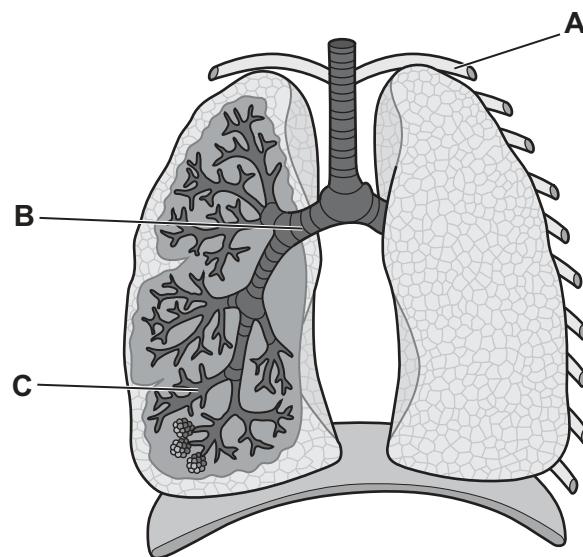
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13 The diagram shows parts of the respiratory system.



(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]





- (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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