Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

8834574508

PHYSICAL EDUCATION **0413/11**

Paper 1 Theory **October/November 2022**

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 The photographs show different combat activities. Photograph **A** shows judo performers and photograph **B** shows taekwondo performers.

A

B

(a) Identify **three** functions of the skeleton. Describe an example of each function being used in either judo or taekwondo.

function 1 .....

example 1 .....

.....

function 2 .....

example 2 .....

.....

function 3 .....

example 3 .....

.....

[6]

(b) Explain how **one** named type of injury can be caused during a combat activity.

type of injury .....

explanation of cause .....

.....

[2]

(c) Other than the use of protective clothing and equipment, suggest **three** strategies that can be used to help reduce the risk and severity of injury to performers in combat activities.

1 .....

.....

2 .....

.....

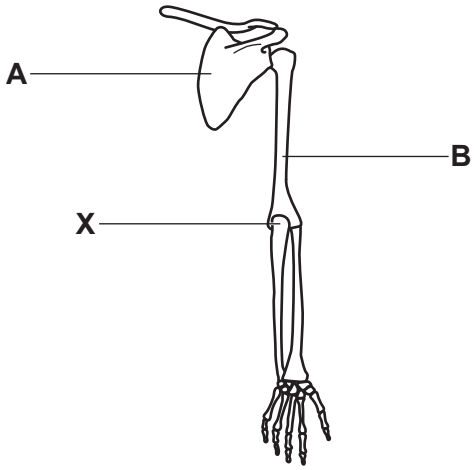
3 .....

.....

[3]

[Total: 11]

2 **(a)** The diagram shows part of the human skeleton.



(i) State the names of the bones labelled **A** and **B**.

A .....

B .....
[2]

(ii) Identify the classification of the bone labelled **A** in the diagram as long, short or flat. Circle your chosen answer.

long **short** **flat** [1]

(iii) State the type of synovial joint labelled **X** in the diagram. Identify **one** type of movement that this joint allows.

type of synovial joint .....

type of movement .....
[2]

(b) The same name is given to a set of bones in the fingers and the toes.

State the name of this set of bones.

..... [1]

(c) Describe the functions of ligaments in a synovial joint.

.....

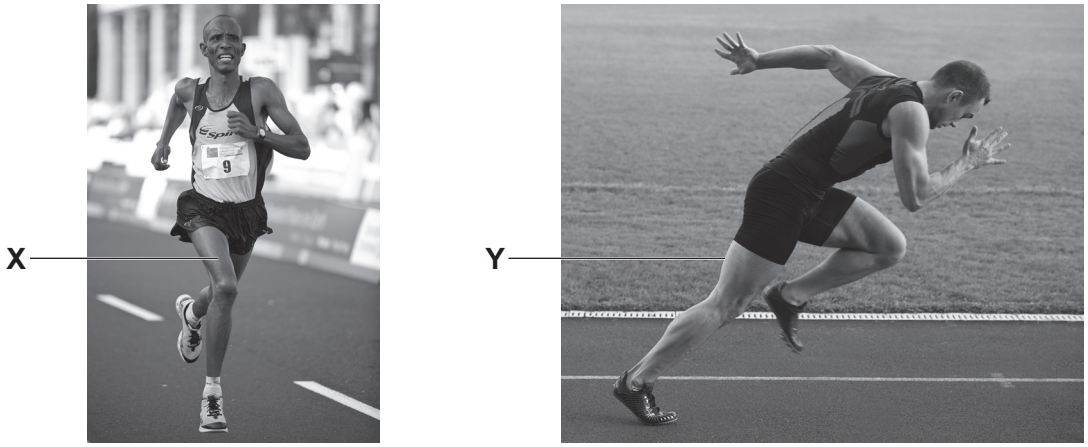
.....

.....

..... [2]

[Total: 8]

3 Photograph **A** shows a long-distance runner and photograph **B** shows a 100-metre sprinter.



A **B**

(a) State the name of the main muscle group located at **X** and the name of the main muscle group located at **Y**.

X .....

Y .....

[2]

(b) Identify the main muscle fibre type used by a long-distance runner to maintain a steady pace. Describe **two** different characteristics of this muscle fibre type.

main muscle fibre type .....

characteristic 1 .....

.....

characteristic 2 .....

.....

[3]

(c) The long-distance runner and the 100-metre sprinter release the majority of their energy in different ways.

(i) Identify the type of respiration shown by the following equation.

glucose + oxygen $\longrightarrow$ carbon dioxide + water

..... [1]

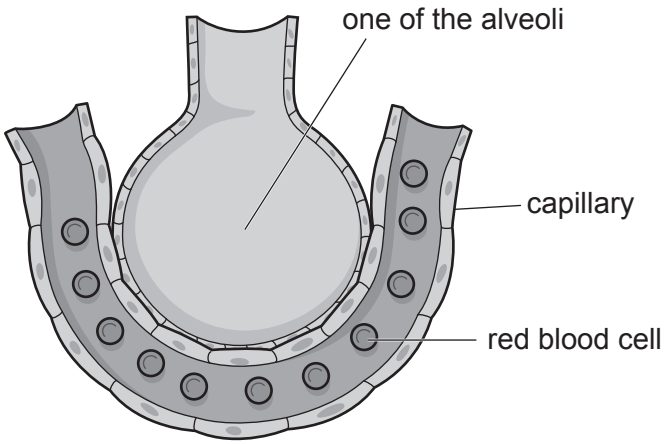
(ii) State the equation for the type of respiration used to release the majority of energy during a 100-metre sprint.

[1]

[Total: 7]

4 The diagram shows one of the alveoli and its blood supply.

(a) Draw an arrow on the diagram to show the direction of the diffusion of most of the oxygen during gaseous exchange.



[1]

(b) Explain how **two** characteristics of the alveoli enable efficient gaseous exchange.

characteristic 1 .....

explanation .....

.....

characteristic 2 .....

explanation .....

.....

[4]

(c) Identify **two** respiratory muscles used when breathing in at rest. Explain a different function of each of these respiratory muscles.

respiratory muscle 1 .....

function .....

.....

respiratory muscle 2 .....

function .....

.....

[4]

[Total: 9]

5 **(a)** Identify the main component of blood involved when:

forming a scab on a cut

.....

fighting infection.

.....
[2]

(b) **(i)** Describe **two** differences, other than the presence of valves, between arteries and veins.

1 .....

.....

2 .....

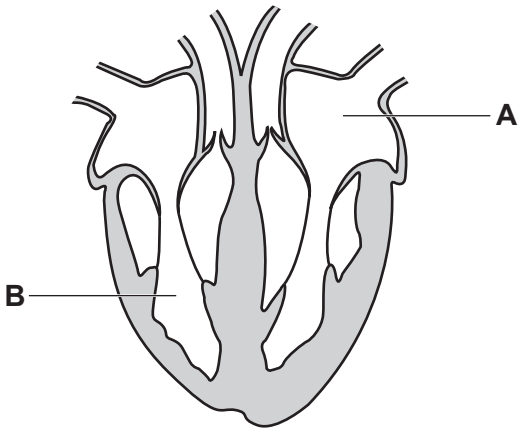
.....
[2]

(ii) Describe the function of valves in veins.

.....

..... [1]

(c) The diagram shows the structure of the heart.



Identify the structures labelled **A** and **B**. Describe the pathway of blood from each structure when the heart contracts.

structure **A** .....

pathway .....

.....

structure **B** .....

pathway .....

.....

[4]

(d) State the name given to the volume of blood that leaves the heart every minute.

..... [1]

[Total: 10]

6 State what Excess Post-exercise Oxygen Consumption (EPOC) is also known as.

..... [1]

7 **(a)** Identify the missing words in the following World Health Organization (WHO) definition of health:

'a state of complete physical, ... and social well-being and not merely the absence of ..... or infirmity'.

[2]

(b) Better health awareness and an increase in leisure time are factors that have influenced the growth in leisure activities.

Suggest **two** other factors that can influence the growth in leisure activities.

1 .....

2 .....

[2]

[Total: 4]

8 Fitness testing is an important part of training.

(a) Suggest reasons, other than to identify the strengths and weaknesses of their performers, why fitness testing may be used by a coach.

.....

.....

.....

..... [2]

(b) Muscular endurance and reaction time are important components of fitness for games players.

(i) State what is meant by muscular endurance and reaction time. For each component of fitness, describe **one** example from a games activity of when it is used.

muscular endurance .....

.....

example from a games activity .....

.....

reaction time .....

.....

example from a games activity .....

.....

[4]

(ii) Describe how to carry out a named test of muscular endurance.

name of test .....

description .....

.....

.....

.....

.....

.....

[4]

(c) Describe, using an example of each, overload and overtraining.

overload .....

.....

example .....

.....

overtraining .....

.....

example .....

.....

[4]

[Total: 14]

9 Fartlek training is a type of training that can be used by games players.

Describe, using examples, a fartlek training session that can be used by a games player.

.....

.....

.....

..... [2]

10 A pulse raiser and stretches are two phases of a warm up.

(a) Complete the table to identify **one** other phase of a warm up. Identify a practical example for this phase.

other phase of warm up	practical example

[2]

(b) State **two** psychological reasons for warming up.

1 .....

.....

2 .....

.....

[2]

(c) At the end of physical activity it is important to cool down.

Identify **one** phase of a cool down. Describe **two** different physiological benefits of a cool down.

phase of cool down .....

benefit 1 .....

.....

benefit 2 .....

.....

[3]

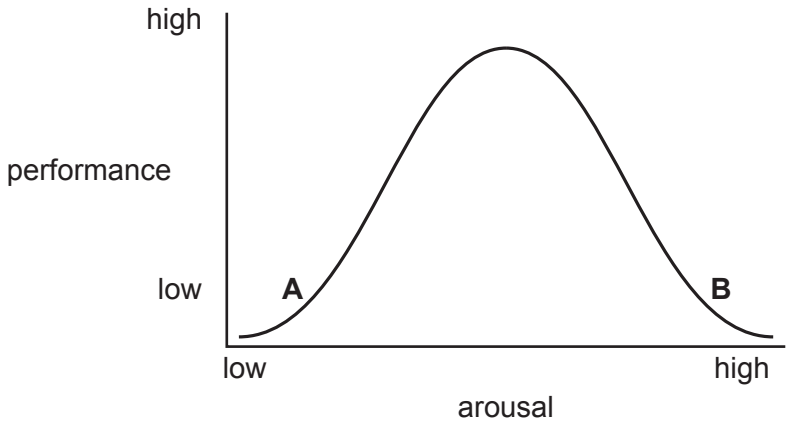
[Total: 7]

11 **(a)** The diagram shows the inverted-U theory of arousal.

(i) State the other recognised name for the inverted-U theory of arousal.

..... [1]

(ii) Draw an **X** on the diagram to indicate the optimal level of arousal.



[1]

(b) Explain, using a different sporting example for each, why performance is low at point **A** and why performance is low at point **B** on the diagram.

point **A**

explanation .....

.....

example .....

.....

point **B**

explanation .....

.....

example .....

.....

[4]

(c) State the names of **two** relaxation techniques that can be used to control arousal.

1 .....

2 .....

[2]

[Total: 8]

12 **(a)** State a major global sporting event.

..... [1]

(b) Suggest **two** reasons why a nation may want to host a major global sporting event.

1 .....

.....

2 .....

.....

[2]

[Total: 3]

13 **(a)** Explain why a swimming coach should use each of the following principles of SMARTER goal setting when teaching a performer:

measurable .....

.....

realistic .....

.....

exciting. .....

.....

[3]

(b) Describe **three** characteristics of a performer that the swimming coach could use to decide if the performer has moved from the cognitive stage of learning to the associative stage of learning.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(c) State **two** types of guidance the swimming coach may use during a swimming lesson.

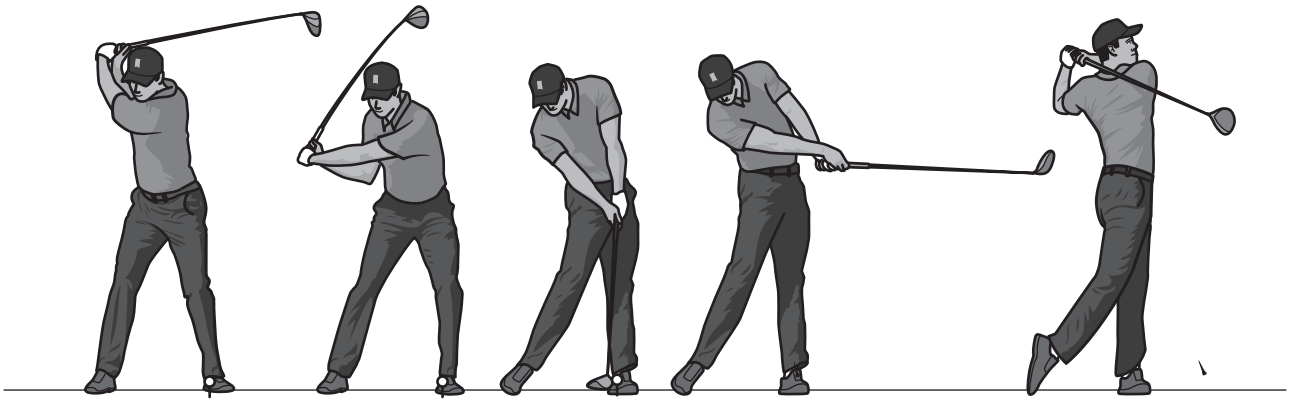
1 .....

2 .....

[2]

[Total: 8]

14 **(a)** The diagram shows stages of a performer hitting a golf ball.



Justify each of the following classifications of hitting a golf ball:

a gross skill .....

.....

a closed skill. .....

.....

[2]

(b) Beta blockers are a type of prohibited performance-enhancing drug that may be used by some golfers.

(i) Suggest why some performers choose to use beta blockers to enhance their performance.

.....

.....

.....

..... [2]

(ii) Suggest **two** disadvantages of using prohibited performance-enhancing drugs.

1 .....

.....

2 .....

.....

[2]

(c) Suggest strategies an organising body could use to reduce the use of prohibited performance-enhancing drugs in sport.

.....

.....

.....

..... [2]

[Total: 8]