Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

8163987635

PHYSICAL EDUCATION **0413/12**

Paper 1 Theory **May/June 2021**

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. Any blank pages are indicated.

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1 Identify **two** types of blood vessels.

1 .....

2 .....
[2]

2 Speed is a component of fitness.

(a) (i) Define *speed*.

.....

..... [1]

(ii) Describe how to carry out a named fitness test for speed.

name of test .....

description .....

.....

.....

.....

.....

.....

.....

.....
[4]

(b) Describe **two** reasons, apart from monitoring improvement, why a coach would carry out fitness tests on a performer.

1 .....

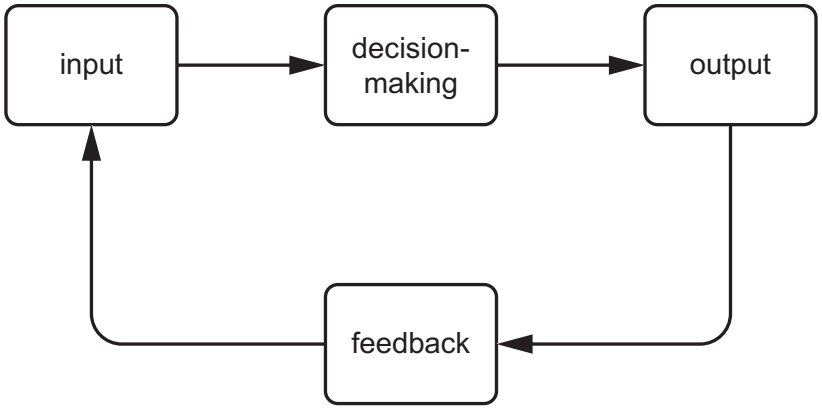
.....

2 .....

.....
[2]

[Total: 7]

3 The diagram shows a basic information processing model.



(a) Explain the role of each stage of the information processing model when performing a named skill in a physical activity.

skill .....

input .....

.....

decision-making .....

.....

output .....

.....

feedback .....

.....

[4]

(b) Describe, using an example of a named skill, how the concept of limited channel capacity can affect a performance.

skill .....

description .....

.....

.....

.....

[2]

[Total: 6]

4 Diagrams **A**, **B** and **C** show a weight-training exercise being carried out.



A **B** **C**

(a) Identify and describe the following:

the type of isotonic muscle contraction from **A** to **B** .....

description .....

.....

the type of isotonic muscle contraction from **B** to **C** .....

description .....

.....

[4]

(b) The diagram shows a performer in a sitting position against a wall.



(i) State the type of muscle contraction taking place in the quadriceps to remain in this position. Describe this type of muscle contraction.

type of muscle contraction .....

description .....

.....

[2]

(ii) Describe **two** other examples from different physical activities of when this type of muscle contraction is used.

physical activity 1 .....

example 1 .....

.....

physical activity 2 .....

example 2 .....

.....

[2]

[Total: 8]

5 Describe advantages that media coverage provides for audiences / spectators.

.....

.....

.....

.....

.....

..... [3]

6 **(a)** Define *VO_2 max*.

.....

..... [1]

(b) Explain how **three** named factors can affect a performer's VO_2 max.

factor 1 .....

explanation .....

.....

factor 2 .....

explanation .....

.....

factor 3 .....

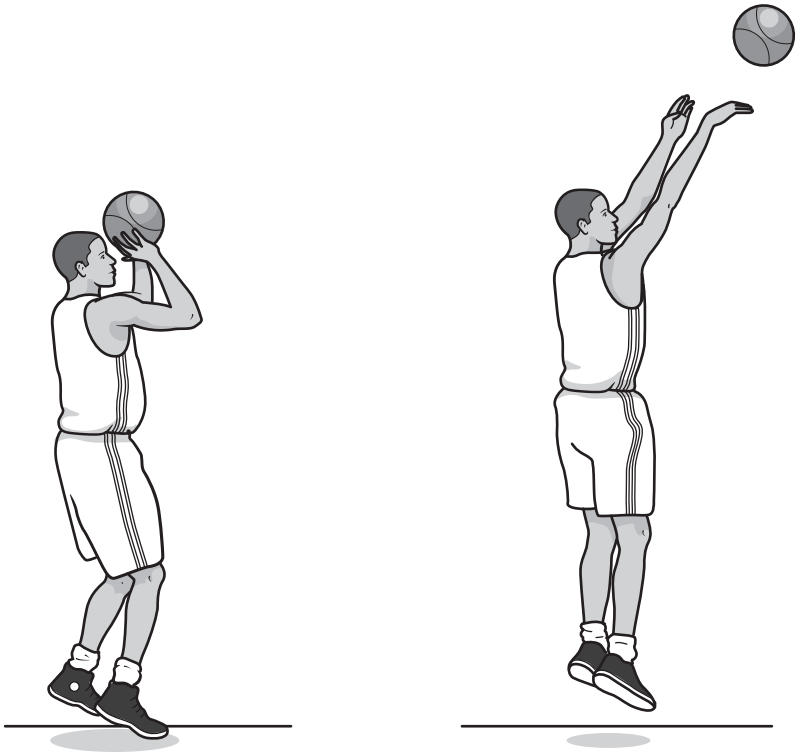
explanation .....

.....

[6]

[Total: 7]

7 The diagrams show a jump shot in basketball.



A **B**

(a) Identify the main muscle fibre type used in the legs from diagram **A** to diagram **B** to enable the performer to gain maximum height in the jump. Describe **two** characteristics of this type of muscle fibre.

main muscle fibre type .....

characteristic 1 .....

.....

characteristic 2 .....

.....

[3]

(b) **(i)** Identify the type of movement taking place at the shoulder from diagram **A** to diagram **B**. Identify the main agonist muscle.

type of movement .....

main agonist muscle .....

[2]

(ii) Identify the type of movement taking place at the elbow from diagram **A** to diagram **B**.

..... [1]

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[Turn over

(iii) Describe the action of a named agonist and a named antagonist in the movement taking place at the elbow from diagram **A** to diagram **B**.

agonist .....

action .....

antagonist .....

action .....

[4]

[Total: 10]

8 **(a)** Explain, using practical examples from a named physical activity, how a named theory links the level of arousal with the quality of performance.

physical activity .....

name of theory .....

explanation .....

.....

.....

.....

.....

.....

[4]

(b) Suggest **two** different causes of anxiety for a sprinter waiting to start an Olympic final.

1 .....

.....

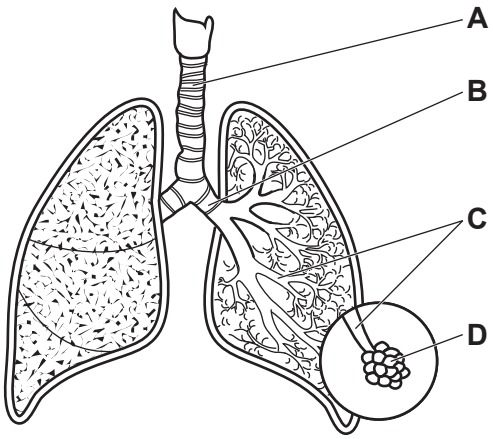
2 .....

.....

[2]

[Total: 6]

9 **(a)** The diagram shows part of the pathway of air into the body.



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

A .....

B .....

C .....

[3]

(ii) Describe **one** function and **two** characteristics of structure **D**.

function .....

.....

characteristic 1 .....

.....

characteristic 2 .....

.....

[3]

(b) Describe the mechanics of breathing during inspiration and expiration at rest.

inspiration .....

.....

.....

.....

.....

expiration .....

.....

.....

.....

.....

[5]

[Total: 11]

10 (a) Suggest possible negative effects for a performer who receives limited extrinsic feedback.

.....

.....

.....

..... [2]

(b) Explain **two** benefits of intrinsic feedback.

1 .....

.....

2 .....

.....

[2]

(c) Identify **two** types of feedback other than extrinsic and intrinsic.

1 .....

2 .....

[2]

[Total: 6]

11 Before physical activity performers may warm up and use relaxation techniques.

(a) State **two** phases of a warm up and explain a different physiological benefit of each phase for a performer.

phase 1 .....

benefit .....

.....

phase 2 .....

benefit .....

.....

[4]

(b) State **two** relaxation techniques that a performer might use before a physical activity.

1 .....

.....

2 .....

.....

[2]

(c) After exercise performers will need to recover.

Describe how Excess Post-exercise Oxygen Consumption (EPOC) aids recovery after a period of anaerobic exercise.

.....

.....

.....

.....

.....

.....

[3]

[Total: 9]

12 Explain, using named physical activities, different ways performance may be improved from using each of the following types of prohibited performance-enhancing drug.

anabolic steroids

physical activity .....

explanation .....

.....

diuretics

physical activity .....

explanation .....

.....

beta blockers

physical activity .....

explanation .....

.....

[3]

13 Describe a function of each of the following components of blood:

white blood cells .....

.....

plasma. .....

.....

[2]

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14 There are three stages of learning.

(a) Identify each of the **three** stages of learning. Describe, using examples from a named physical activity, a characteristic of a performer at each stage of learning.

physical activity .....

stage 1 .....

characteristic .....

.....

stage 2 .....

characteristic .....

.....

stage 3 .....

characteristic .....

.....

[6]

(b) Describe, using examples from a named physical activity, how the following types of guidance can be used:

physical activity .....

visual .....

.....

mechanical. .....

.....

[2]

[Total: 8]

15 Describe, from a named physical activity, an open skill and a closed skill. Justify each of your answers.

physical activity .....

open skill .....

justification .....

.....

closed skill .....

justification .....

.....

[4]

16 Weight training is a method of training.

(a) Describe **two** advantages and **two** disadvantages of using this method of training.

advantages

1 .....

.....

2 .....

.....

disadvantages

1 .....

.....

2 .....

.....

[4]

(b) Describe how **two** named principles of overload can be applied to a weight training programme.

principle 1 .....

application .....

.....

principle 2 .....

application .....

.....

[4]

[Total: 8]

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