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PHYSICAL EDUCATION**0413/11**

Paper 1 Theory

May/June 2025**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.



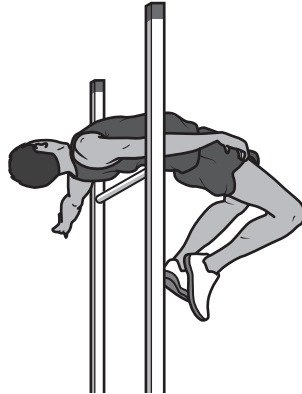
- 1 One of the functions of the human skeleton is to provide shape and support.

Identify **two** other functions of the skeleton.

1

2 [2]

- 2 The diagram shows an athlete using power and flexibility to perform a high jump.



- (a) Other than power and flexibility, explain how **two** named components of fitness would benefit a high jumper's performance.

component of fitness 1

benefit

.....

component of fitness 2

benefit

..... [4]

- (b) Describe how a named recognised test for power is carried out.

name of test

description

.....

.....

.....

.....

.....





(c) (i) State the main muscle fibre type that is used during a high jump take off.

..... [1]

(ii) Describe **two** ways this muscle fibre type benefits a high jumper.

1

.....

2

.....

[2]

(d) Plyometric training may be used to improve power.

Suggest **three** exercises that could be included in a plyometric training session.

1

.....

2

.....

3

.....

[3]

(e) Describe **three** disadvantages of using plyometric training.

1

.....

2

.....

3

.....

[3]

[Total: 17]





- 3 The photographs **A**, **B** and **C** show a performer completing the upward and downward phases of a bicep curl.



- (a) Describe the antagonistic muscle action taking place in the upper arms from photograph **A** to **B**.

.....

.....

.....

.....

.....

.....

..... [3]

- (b) In photograph **B** the performer holds the weights in a stationary position.

State the type of muscle contraction taking place at this point.

..... [1]

- (c) The elbow joint is classified as a synovial joint.

Describe the function of **one** named component of a synovial joint.

component

function

..... [2]

[Total: 6]





- 4 Suggest strategies to overcome each of the following barriers to participation in physical activities for people over 60 years of age:

limited provision

.....

.....

.....

.....

.....

.....

.....

limited access.

.....

.....

.....

.....

.....

.....

.....

[6]





- 5 (a) Complete the table to describe how the ribs and diaphragm move during inhalation and exhalation during normal breathing.

	inhalation	exhalation
ribs	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
diaphragm	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

[4]

- (b) Complete the sentences to describe changes to the lungs during inhalation and exhalation.

The volume of air in the lungs during inhalation.

The pressure of air in the lungs causing exhalation.
[2]

- (c) Identify **two** breathing volumes that **do not** increase during exercise.

1

2
[2]

[Total: 8]

- 6 Describe **three** features of good social health and well-being as defined by the World Health Organization (WHO).

1

.....

2

.....

3

.....

[3]





- 7 Performance-enhancing drugs (PEDs) can lead to negative health implications for the person taking them.

(a) Suggest **three** other disadvantages of PEDs.

- 1
.....
- 2
.....
- 3
.....
- [3]

(b) Blood doping is another prohibited method that can be used to improve performance.

- (i) Identify a physical activity that is most likely to benefit from blood doping.
..... [1]
- (ii) Describe **one** possible benefit to performance from blood doping.
.....
..... [1]
- (iii) Describe **one** possible side effect of blood doping.
.....
..... [1]

[Total: 6]



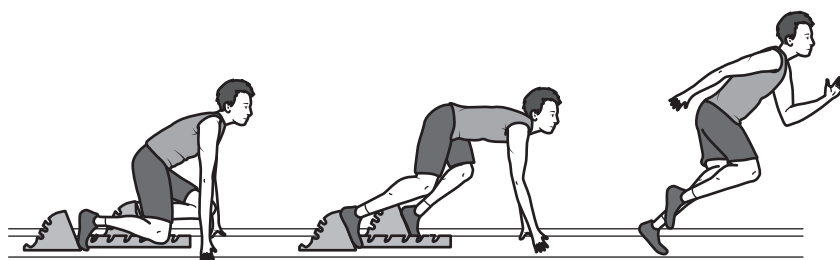


- 8 Complete the table to describe **three** ways association football as sport differs from association football as play. An example has been provided.

	association football as sport	association football as play
	a maximum of 11 players in each team	any number of people can take part
1		
2		
3		

[3]

- 9 The diagram shows a sprinter starting a race.



- (a) Explain the effect of **three** named forces acting on the sprinter as they start the race.

force 1

effect

.....

force 2

effect

.....

force 3

effect

.....

[6]





(b) (i) Identify the class of lever being used at the ankle at the start of the race.

..... [1]

(ii) Draw and label a diagram of the lever identified in (b)(i).

[2]

[Total: 9]

10 Suggest **one** physical activity that might typically be played by a performer who has an introverted personality type. Give **two** different justifications for the activity suggested.

activity

justification 1

.....

justification 2

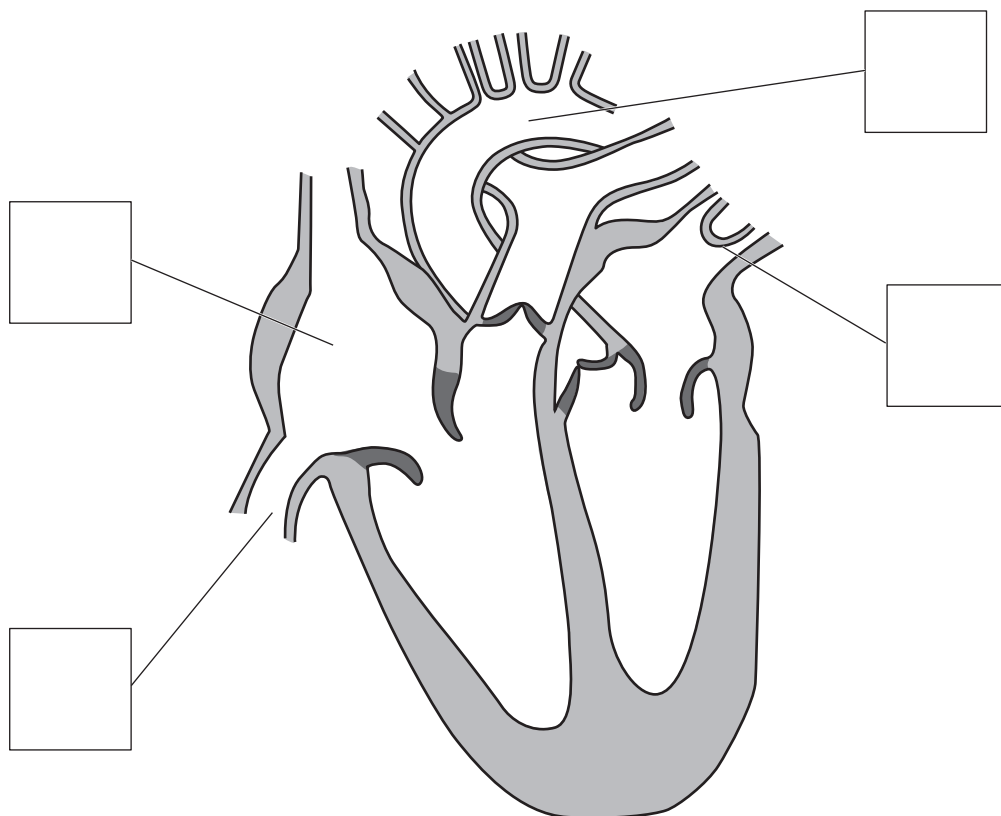
.....

[3]





11 The diagram shows the human heart.



(a) Identify the following features of the heart by placing the letters **A**, **B**, **C** and **D** in the appropriate boxes on the diagram.

- A** right atrium
- B** aorta
- C** vena cava
- D** pulmonary vein

[4]

(b) Complete the table to identify the type of blood vessel described by each of the following statements:

statement	blood vessel
walls are single cell in thickness	
thick muscular walls	

[2]





(c) Describe **two** long-term effects of regular aerobic exercise on the heart.

1

.....

2

.....

[2]

(d) The intensity of exercise is a factor that can affect recovery time.

State **two** other factors that can affect the recovery time of a performer.

1

.....

2

.....

[2]

[Total: 10]





- 12 (a)** For each type of performer, complete the table to identify a different food source rich in each nutrient and a different benefit that each nutrient may provide.

type of performer	nutrient	food source	benefit
cross-country runner	fats
shot putter	protein
50-metre swimmer	carbohydrates

[6]

- (b)** Explain why water is a vital part of a marathon runner's diet.

.....

 [3]

[Total: 9]





13 Optimal level of arousal varies for different skills.

- (a) Explain why **two** skills from a named physical activity require different optimal levels of arousal.

physical activity

skill 1

.....

explanation

.....

skill 2

.....

explanation

.....

[4]

- (b) Suggest **three** effects of overarousal on performance.

1

.....

2

.....

3

.....

[3]

- (c) Name and describe **one** relaxation technique a performer may use to control arousal.

relaxation technique

description

.....

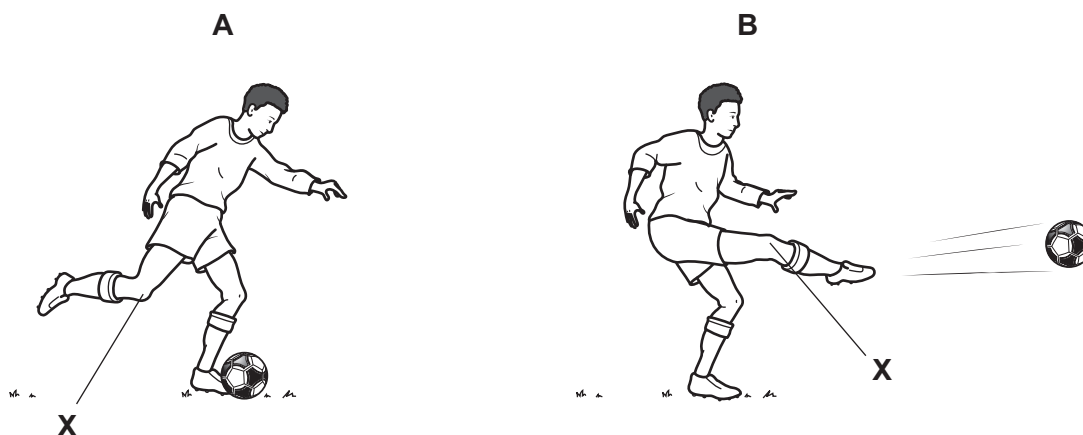
[2]

[Total: 9]





- 14 The diagrams **A** and **B** show stages of a performer kicking a ball. The knee of the kicking leg is labelled **X**.



- (a) Identify the type of movement at the knee of the kicking leg from diagram **A** to diagram **B**.

..... [1]

- (b) Identify the **two** bones that form the knee joint.

..... and [2]

- (c) Describe the role of tendons during movement at the knee.

.....

 [2]

- (d) Suggest **two** possible causes of tendon injuries.

1

 2
 [2]





(e) The RICE method of treatment is often used to treat tendon injuries.

Describe a different benefit of each of the following stages of the RICE method of treatment:

rest

.....

compression.

.....

[2]

[Total: 9]





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