Cambridge Assessment International Education

Cambridge International AS & A Level

PHYSICAL EDUCATION **9396/12**

Paper 1 **May/June 2022**

2 hours 30 minutes

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You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **all** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You should show all your working and use appropriate units.

INFORMATION

- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **8** pages. Any blank pages are indicated.

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Answer **all** questions.

Section A: Applied anatomy and physiology

1 **(a)** An action of the rectus femoris is to cause extension of the knee.

Describe an action of each of the following muscles:

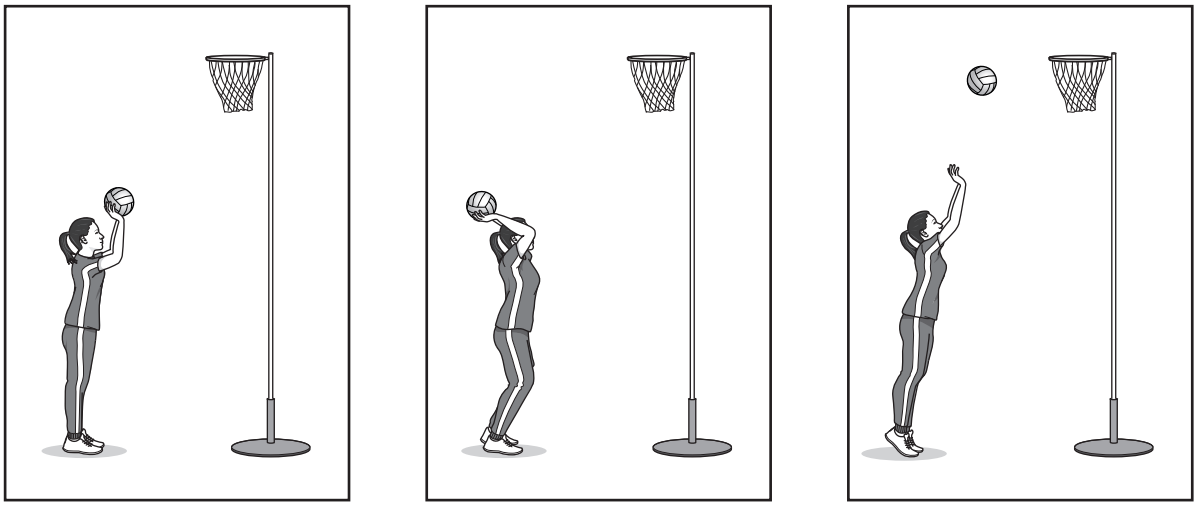
- latissimus dorsi
- tibialis anterior
- sartorius.

[3]

(b) Muscles often work in antagonistic pairs.

Using the elbow joint as an example, explain what is meant by an antagonistic pair. [4]

(c) The diagrams show a netball player shooting.



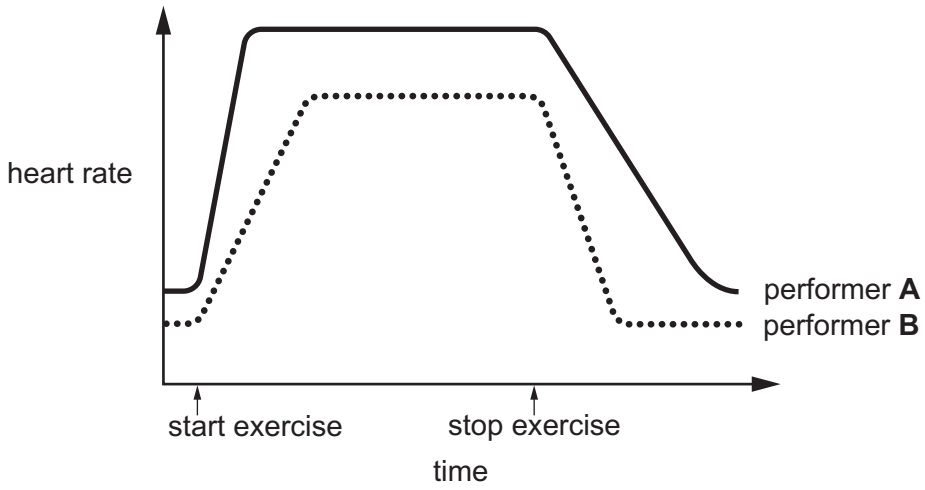
A **B** **C**

Identify the items 1–6 in the table to describe a movement analysis of the player's right shoulder joint from position **A** to position **B** and the player's right ankle joint from position **B** to position **C**. Your analysis should include the type of synovial joint, the type of movement occurring and the main agonist.

	type of synovial joint	type of movement occurring	main agonist
player's right shoulder joint from **A** to **B**	1	2	3
player's right ankle joint from **B** to **C**	4	5	6

[6]

(d) The graph shows the changes in heart rate of two performers before, during and after an exercise of equal intensity.



Suggest, using the graph, why performer **B** may be considered the fitter performer. [3]

(e) Describe the pathway of deoxygenated blood from the working muscles to the lungs. [5]

(f) One mechanism that assists venous return during exercise is the action of pocket valves, which prevent the backflow of blood.

Explain **three** other mechanisms that assist venous return during exercise. [3]

(g) An increase in carbon dioxide leads to an increase in blood acidity.

Explain how an increase in blood acidity causes the ventilation rate to rise. [4]

(h) Describe how the structure of the trachea aids ventilation. [2]

[Total: 30]

Section B: Acquiring, developing and performing movement skills

2 **(a)** Abilities are innate.

State **two** other characteristics of abilities. [2]

(b) When learning skills, performers progress from motor abilities through fundamental motor skills to sport-specific skills.

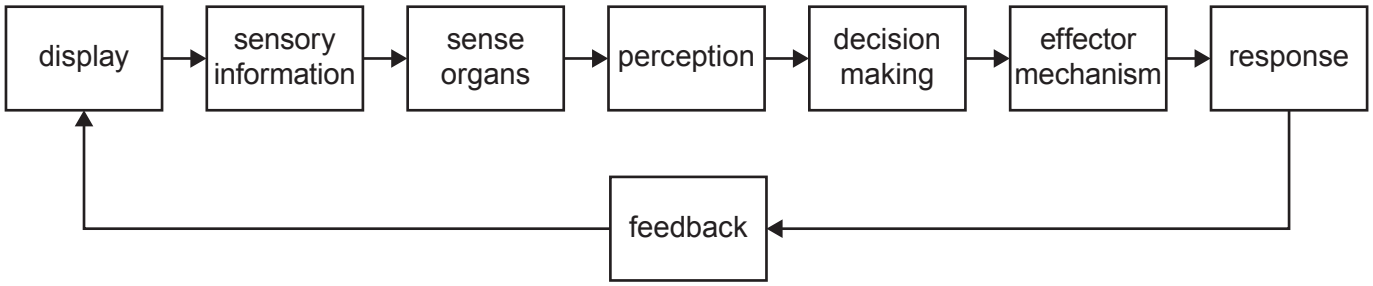
Describe the progression from fundamental motor skills to sport-specific skills. [3]

(c) Describe insight learning. Suggest how insight learning could be beneficial for a performer. [4]

(d) **(i)** Describe, using a practical example, what is meant by a motor programme. [4]

(ii) Explain open-loop control of a motor programme. [3]

(e) The diagram shows a basic information-processing model.



(i) Explain the role of each of the following:

- perception
- decision making.

[4]

(ii) State the main functions of feedback. [3]

(iii) Justify why the following types of feedback are effective for autonomous performers:

- intrinsic
- concurrent
- negative
- knowledge of performance.

[4]

(f) Drive theory suggests that as arousal increases, so does performance.

Explain, in more detail, the drive theory of arousal. [3]

[Total: 30]

Section C: Contemporary studies in physical education and sport

3 **(a)** Compare swimming as recreation with swimming as sport. [5]

(b) Describe the benefits a country may gain from investing heavily when attempting to develop Olympic success. [4]

(c) **(i)** Other than increased fitness, outline some of the benefits for an individual of regular participation in sport. [6]

(ii) Describe, using a country of your choice, **four** named initiatives to encourage mass participation. [4]

(d) Suggest possible causes of violence by performers during a sporting event. [5]

(e) **(i)** Explain why some sports performers may resort to taking prohibited performance-enhancing drugs. [3]

(ii) Other than more drug testing, suggest ways to reduce the problem of drugs in sport. [3]

[Total: 30]

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