

---

**PHYSICAL EDUCATION**

**9396/13**

Paper 1

**October/November 2019**

**2 hours 30 minutes**

No Additional Materials are required.

---

**READ THESE INSTRUCTIONS FIRST**

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.

Electronic calculators may be used.

You may lose marks if you do not show your working or if you do not use appropriate units.

The number of marks is given in brackets [ ] at the end of each question or part question.



---

This document consists of **4** printed pages and **1** Insert.

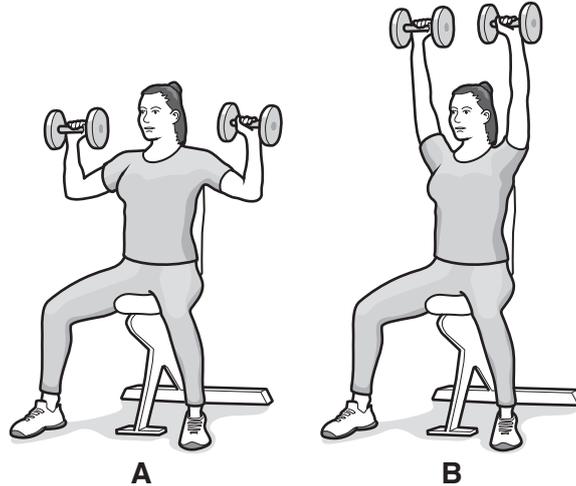
Answer **all** questions.

**Section A: Applied anatomy and physiology**

- 1 (a) Muscles often work in antagonistic pairs.

Using the ankle joint as an example, explain the term *antagonistic pair*. [4]

- (b) The diagrams show a performer completing a shoulder press.



Identify the items 1–5 in the table to describe a movement analysis of the shoulder joint and elbow joint from position **A** to position **B**. Your analysis should include the type of muscle contraction, the type of movement occurring and the main agonist.

	type of muscle contraction	type of movement occurring	main agonist
shoulder joint	1	2	3
elbow joint		4	5

[5]

- (c) Explain the role of the conduction system of the heart during the cardiac cycle. [6]
- (d) Describe the systemic circulatory system. [4]
- (e) Describe the different functions of haemoglobin and myoglobin when transporting oxygen. [2]
- (f) Describe how the skeletal muscle pump mechanism is assisted by running. [3]
- (g) (i) Describe the mechanics of breathing during inspiration at rest. [4]
- (ii) Explain how changes in the mechanics of breathing during exercise lead to increased inspiration. [2]

[Total: 30]

### Section B: Acquiring, developing and performing movement skills

2 (a) Explain the following terms using a practical example for each:

- high organisation skill
- low organisation skill.

[4]

(b) Explain how a coach could use operant conditioning to assist learning.

[4]

(c) Outline the principles of the cognitive theory of learning.

[3]

(d) Explain, using an example from a sport-specific skill, what is meant by *open-loop control*.

[3]

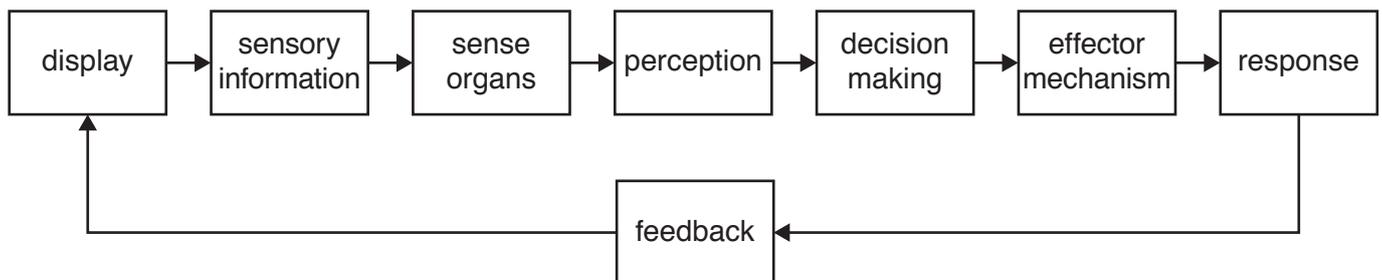
(e) (i) State the **four** rules of schema used to modify motor programmes in Schmidt's schema theory.

[4]

(ii) Suggest how a coach can use schema theory to develop a performer's skills.

[4]

(f) The diagram shows an example of an information processing model.



Explain the role of the following components of an information processing model:

- perception
- effector mechanism.

[4]

(g) Describe, using drive theory, how arousal affects performance.

[4]

[Total: 30]

### Section C: Contemporary studies in physical education and sport

- 3 (a) (i) Describe the characteristics of a recreational swimming session. [4]
- (ii) Suggest how the concept of physical education differs from physical recreation. [4]
- (iii) Explain, using examples from outdoor education, what is meant by each of the following terms:
- subjective danger
  - objective danger.
- [4]
- (b) Socio-economic status is a factor that affects participation in sport.
- Explain how **four** other factors affect participation in sport. [4]
- (c) Describe, using examples, what is meant by each of the following terms:
- sportsmanship
  - gamesmanship.
- [4]
- (d) Suggest how National Governing Bodies could encourage mass participation in their sport. [5]
- (e) Describe the negative effects of commercialism on sport. [5]
- [Total: 30]

---

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.