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**PHYSICAL EDUCATION**

**9396/12**

Paper 1

**October/November 2019**

**2 hours 30 minutes**

No Additional Materials are required.

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**READ THESE INSTRUCTIONS FIRST**

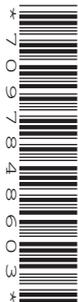
An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

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.



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

Answer **all** questions.

**Section A: Applied anatomy and physiology**

1 (a) Describe what is meant by each of the following terms:

- antagonist
- synergist.

[2]

(b) Identify the type of synovial joint at the ankle. State the bones that articulate at this joint. [2]

(c) The diagrams show a swimmer performing a dolphin leg kick.



Identify the items 1–5 in the table to describe a movement analysis of the hip and knee joints 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
hip joint	1	2	3
knee joint		4	5

[5]

(d) (i) Explain the route taken by blood from the vena cava, through the chambers and valves of the heart, to the lungs. [5]

(ii) Explain how neural factors regulate heart rate during exercise. [5]

(e) Explain the changes in the velocity of blood as it flows through the systemic circulatory system. [4]

(f) Describe **three** features of the alveoli that assist gaseous exchange. [3]

(g) Describe how the mechanics of breathing change during exercise to ventilate more air. [4]

[Total: 30]

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

- 2 (a) Classify passing a ball in a team game using each of the following **four** continua. Justify your answer for each classification.
- open and closed
  - discrete, serial and continuous
  - externally and internally paced
  - simple and complex
- [4]
- (b) (i) Describe Bandura's observational learning theory. [4]
- (ii) Suggest **two** ways a coach could make a demonstration more effective when teaching a movement skill. [2]
- (c) Explain, using a practical example, the term *motor programme*. [4]
- (d) Explain, using an example from a sport-specific skill, what is meant by *closed-loop control*. [4]
- (e) Explain how **four** different factors could affect the reaction time of a performer. [4]
- (f) During the development of skills a performer will progress through various phases of learning. Name the first phase of learning and describe the characteristics of this phase. [4]
- (g) Explain drive-reduction theory. [4]
- [Total: 30]

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

- 3 (a) Recreation, play and leisure are all concepts of physical activity.
- (i) Describe, using a physical activity of your choice, **four** similarities between recreation and play. [4]
- (ii) Suggest benefits of active leisure for an individual. [4]
- (b) Outline the differences between sport and physical education. [4]
- (c) (i) Explain what is meant by the term *elite performer*. [2]
- (ii) Describe the provision required by an elite performer in order to achieve high levels of performance. [5]
- (d) Describe each of the following:
- provision of facilities by voluntary bodies
  - provision of facilities by public bodies. [6]
- (e) Outline how sporting organisations have attempted to reduce the potential for spectator violence. [5]

[Total: 30]

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