

# **ADVANCED SUBSIDIARY GCE**

2562

### PHYSICAL EDUCATION

The Application of Physiological and Psychological Knowledge to Improve Performance

## **MONDAY 21 JANUARY 2008**

Afternoon

Time: 1 hour 30 minutes

Candidates answer on the question paper

Additional materials: No additional materials are required

Candidate Forename				Candidate Surname			
Centre Number				Candidate Number			

#### **INSTRUCTIONS TO CANDIDATES**

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer all the questions.
- Do not write in the bar codes.
- Do not write outside the box bordering each page.
- Write your answer to each question in the space provided.
- Additional answer space is available on the lined pages at the back of this booklet. Answers on these
  pages must be clearly numbered.

#### **INFORMATION FOR CANDIDATES**

- The number of marks for each question is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is 60.

FOR EXAM	INER'S USE
1	
2	
3	
4	
TOTAL	

	This document	consists	of <b>10</b>	printed	pages	and 2	lined	pages
--	---------------	----------	--------------	---------	-------	-------	-------	-------

## **Section A**

# Application of Anatomical and Physiological Knowledge to Improve Performance

1 (a) Fig. 1 shows an athlete in a 110 m hurdles race.



Fig. 1

(i) Complete the joint analysis table below for the athlete's left (trailing) leg. [5]

Joint	Joint Type	Articulating Bones	Movement	Agonist	Antagonist
Left Knee (Trailing)		Femur and Tibia			Rectus Femoris
Left Ankle (Trailing)	Hinge		Dorsi Flexion	Tibialis Anterior	

(ii) Give **one** exercise that could be used to strengthen the rectus femoris and **one** exercise to strengthen the tibialis anterior.

Rectus Femoris	
Exercise	
	[1]
Tibialis Anterior	
Exercise	
	[1]

	(iii)	Identify <b>two</b> structures of a synovial joint and describe the role of <b>one</b> of these structures during physical performance.
		Structure 1
		Structure 2
		Role
(b)	It is	recommended that an athlete completes a cool down after exercise.
		cribe three ways in which an active cool down affects the vascular system of the athlete.
		[3]
(c)	-	lain, using a practical example, how either size or direction of force can affect performance E and sport.
		[2]

2 (a) Fig. 2 shows the lung volumes of a performer at rest.

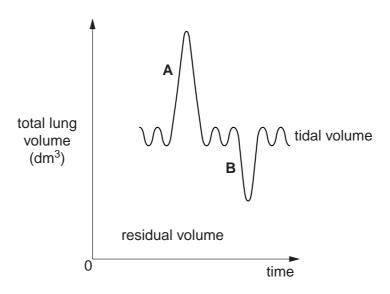


Fig. 2

(i)	Name the <b>two</b> lung volumes marked <b>A</b> and <b>B</b> .									
	A									
	В	[2]								
(ii)	Describe tidal volume. What would you expect to happen to tidal volume du exercise?	ring								
		[2]								

(b) Fig. 3 shows the dissociation curve. During exercise this curve moves to the right.

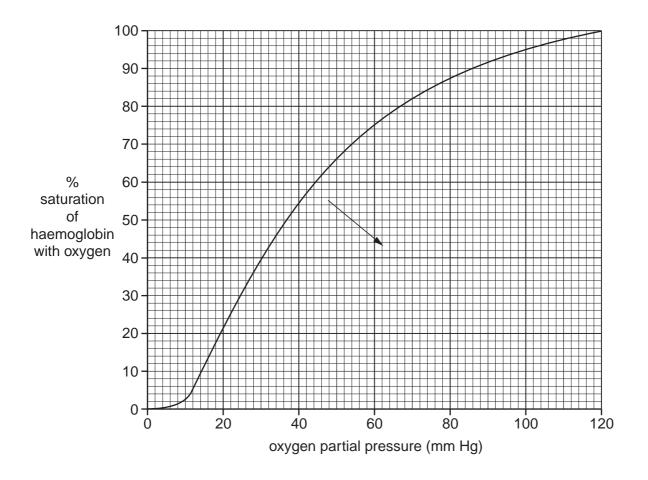


Fig. 3

Explain what physiological factors cause the curve in Fig. 3 to move.

[4]	
[4]	 
	 [4]

© OCR 2008 [Turn over

(c)	Describe how intrinsic control affects the cardiac output of a performer during exercise.
	[4]
(d)	
	[3]
	[Total: 15]

# **Section B**

# **Acquiring and Performing Movement Skills**

3	(a)	(i)	A skilful performance is fluent and follows a technical model.
			Identify <b>two</b> other characteristics of skilful performance and give a practical example for <b>one</b> of them.
			Characteristic 1;
			Characteristic 2 (with example);
			[3]
		(ii)	Practical skills can be classified on the environmental influence continuum as being either open or closed.
			Use a practical example to explain what is meant by an open skill.

© OCR 2008 [Turn over

(b)	(i)	Selective attention is a feature of information processing.
		What is selective attention and why is it important to the short term memory?
		[3]
	(ii)	What strategies can be used to ensure that information is retained and easily retrieved from the long term memory?
(-)		
		[3]
	Por	
(c)		action time can be influenced by the psychological refractory period.
	USE	e a practical example to explain the psychological refractory period.
		[3]
		[Total: 15]

4	(a)	Feedback plays an important part in the learning and performance of movement skills.							
		Use practical examples to explain both intrinsic and extrinsic feedback.							
		Intrinsic;							
		Extrinsic;							
		[4]							
	(b)	Use a practical example and Fig. 4 below to explain the Inverted U theory of arousal.							
		high –							
		uality of moderate - / / / / / / / / / / / / / / / / / /							
	poi								
		law							
		low –							
		low moderate high							
		arousal level							
		Fig. 4							
		[3]							
@	OCR 20	[Turn over							

(c) (i)	Movement can be controlled by motor programmes.
	What is a motor programme?
	[2]
(ii)	Use a practical example to explain what is meant by open loop motor control.
	[3]
(iii)	Schema can be used as a way of modifying a motor programme. Two of the sources of information in a schema come from the initial conditions and the response specifications.
	Use a practical example to explain what is meant by the initial conditions and the response specifications.
	Initial conditions;
	Response specifications;
	[2]
(iv)	Why is variability of practice important to the development of schema?
	[1]

[Total: 15]

If you use these lined pages you <b>must</b> write the question number next to your answer.

© OCR 2008


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 (OCR) 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.

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