

Candidate Name	Centre Number	Candidate Number

WELSH JOINT EDUCATION COMMITTEE  
General Certificate of Secondary Education



CYD-BWYLLGOR ADDYSG CYMRU  
Tystysgrif Gyffredinol Addysg Uwchradd

197/02

**PHYSICAL EDUCATION**

**PAPER 2**

P.M. WEDNESDAY, 24 May 2006

(1½ hours)

For Examiner's use only		
Question	Maximum mark	Mark awarded
1	20	
2	20	
3	20	
4	20	
5	20	
<b>Total</b>	<b>100</b>	
<b>Add QWC</b>	<b>5</b>	
<b>Final Total</b>	<b>105</b>	

**INSTRUCTIONS TO CANDIDATES**

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions.

Write your answers to all the questions in the spaces provided in this question-and-answer booklet.

**INFORMATION FOR CANDIDATES**

The mark allocation for each part of a question is shown in brackets.

You will be awarded marks for the quality of written communication.

No certificate will be awarded to a candidate detected in any unfair practice during the examination.

*Answer all the questions in the spaces provided.*

1. (a) List **three** reasons why physical fitness tests are carried out. [3]

(i) .....

(ii) .....

(iii) .....

(b) “Good co-ordination is essential for skilful performance.”

(i) Define co-ordination. [1]

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(ii) Describe the correct procedures for a **recognised** test of co-ordination. [1]

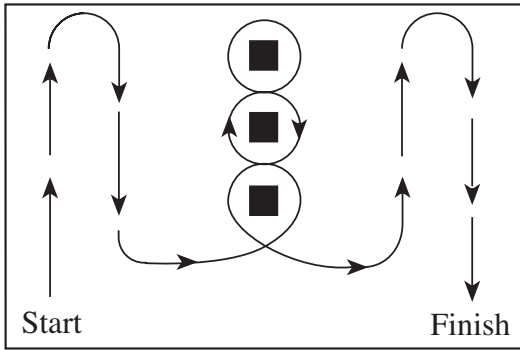
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(iii) Using a specific example, from a sporting activity, describe how co-ordination is essential for skilful performance. [2]

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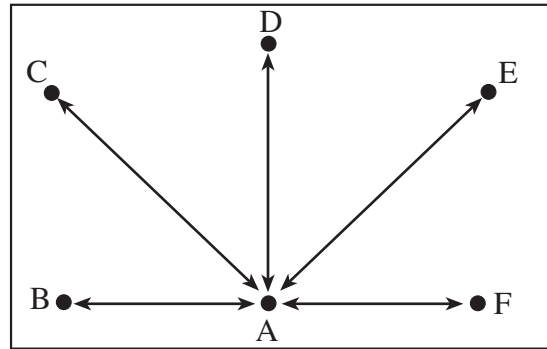
(c) Both diagrams below show tests for the same physical fitness component.

Test 1



Complete the course as quickly as possible

Test 2



Start at A, run to B, C, D, E and F and back as quickly as possible.

(i) Which physical fitness component is being tested? [1]

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(ii) Define the physical fitness component named in (c) (i) above. [1]

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(iii) In your opinion, which of these tests is the more appropriate for a hockey or football player? Give reasons for your answer. [3]

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- (d) The table below identifies the importance of a number of components of physical fitness needed for a **marathon** runner.

1 = Not very important

5 = Very important

Physical Fitness Component	Not very important				Very important
	1	2	3	4	5
<b>Power</b>	①	2	3	4	5
<b>Cardio vascular endurance</b>	1	2	3	4	⑤
<b>Muscular endurance</b>	1	2	3	4	⑤
<b>Speed</b>	1	2	③	4	5
<b>Flexibility</b>	1	②	3	4	5

Name another sporting activity **or** event **or** position in a team game and identify the importance of **each** of the physical fitness components by **circling a number** in the table below.

Name of sporting activity **or** event **or** position in a team game.

.....

Physical Fitness Component	Not very important				Very important
	1	2	3	4	5
<b>Power</b>	1	2	3	4	5
<b>Cardio vascular endurance</b>	1	2	3	4	5
<b>Muscular endurance</b>	1	2	3	4	5
<b>Speed</b>	1	2	3	4	5
<b>Flexibility</b>	1	2	3	4	5

From the table above, use specific examples, to justify your answer for each physical fitness component. (Marks will be awarded for your reasoning.) [8]

Answer this question on page 5.

Power

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Cardiovascular endurance

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Muscular endurance

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.....

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Speed

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Flexibility

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**Total Mark**

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**Turn over.**

2. (a) (i) Explain the meaning of the term  $VO_2$  max. [1]

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.....

(ii) Give **two** benefits for a sportsperson of having a **high**  $VO_2$  max. [2]

(I) .....

(II) .....

(b) (i) Give a sporting example of *anaerobic* activity. [1]

.....

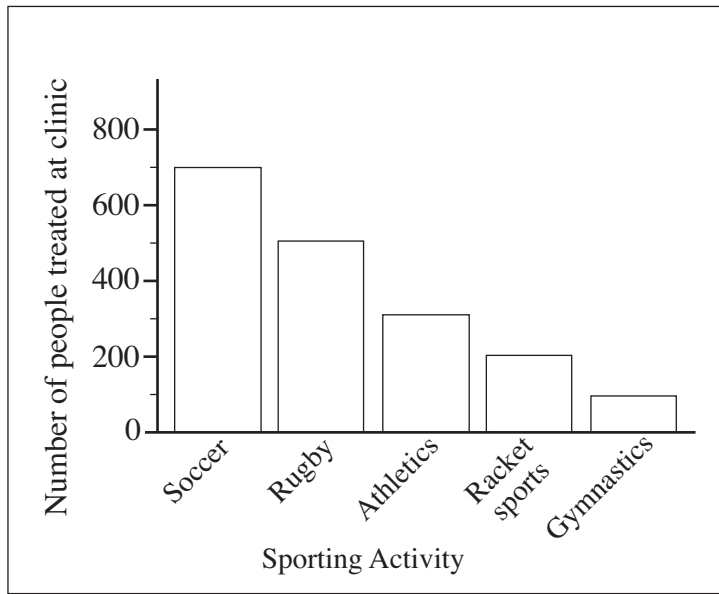
(ii) Why is lactic acid produced during *anaerobic* activity? [2]

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.....

(iii) What happens to an athlete's performance as lactic acid builds up? [1]

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.....

(c) The graph below shows the number of sporting injuries treated at a sports clinic.



(i) Give **one** possible reason to explain why there are less injuries in gymnastics than in the other sports shown on the graph. [1]

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(ii) Using **one** sporting activity as an example explain, using the following headings, how you can minimise the risk of injury. [4]

Name of sporting activity .....

Equipment .....

.....

.....

Physical preparation .....

.....

.....

Knowledge of rules/conventions .....

.....

.....

(d) “Sportspeople train hard to create **long-term** effects on the body which should help to improve performance.”

(i) Identify **three** long-term effects of exercise on the body. [3]

Long-term effects of exercise on the body	
(I)	..... .....
(II)	..... .....
(III)	..... .....

(ii) Using **examples** from sporting activities, explain how **each** long-term effect of exercise, identified in part (i), can help to improve performance. [5]

(I)	..... ..... ..... .....
(II)	..... ..... ..... .....
(III)	..... ..... ..... .....



3. (a) (i) Explain the relationship between **health** and **fitness**. [1]

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 .....

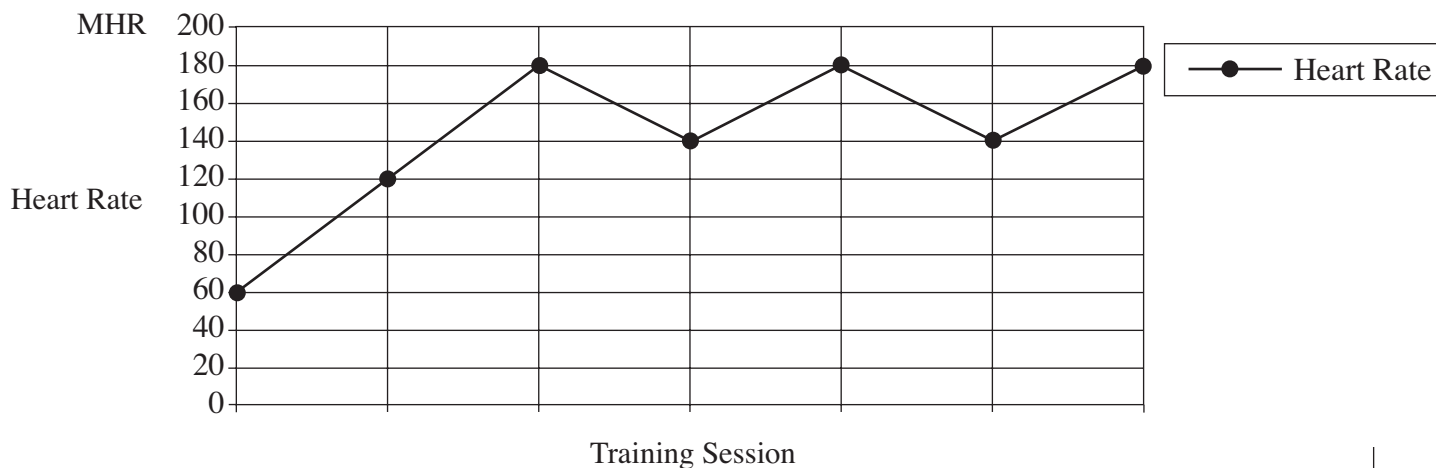
(ii) Briefly describe the meaning of the term “energy balance”. [1]

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 .....

(iii) Why is knowledge of the “energy balance equation” important for a sportsperson? [1]

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 .....

(b) The graph below shows the heart rate of a sportsperson recorded during a training session.



(i) What happens to the sportsperson’s heart rate during the training session? [1]

.....

(ii) What causes the heart rate to change in this way? [1]

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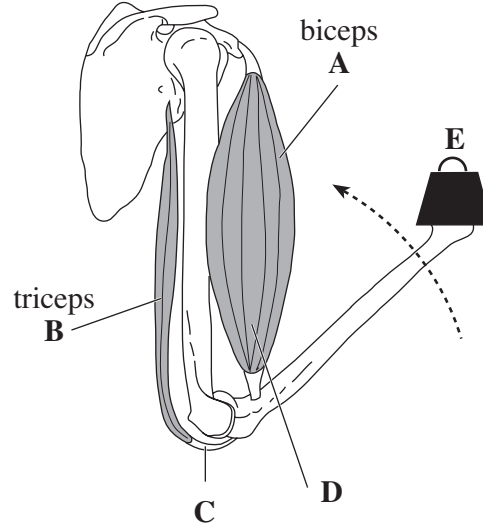
(iii) What type of sporting activity do you think the sportsperson is training for? Explain your answer. [2]

Type of sporting activity .....

Explanation .....

.....  
 .....

(c) The diagram below shows the action of the upper arm muscles involved in **lifting** a weight.



(i) Which muscle is the **prime** mover? [1]

(ii) Which muscle is the **antagonist**? [1]

(iii) Which type of movement is taking place at the elbow joint? [1]

(iv) The movement is an example for a third order lever in action. Identify the pivot/fulcrum and load/resistance by completing the table below. [2]

<b>Effort/power</b>	<b>D</b>
<b>Pivot/fulcrum</b>	
<b>Load/resistance</b>	

(d) (i) Explain why synovial joints are so important for the sportsperson. [1]

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.....

(ii) Explain why it is important to train all muscles acting on a joint. [1]

.....  
.....

(iii) “Different synovial joints allow certain types of movement.”

The table below gives an example of a type of movement, the name of a synovial joint, the location of the joint and an appropriate sporting action.

Complete the table for **both** extension/flexion and rotation. [6]

Type of Movement	Name of Synovial Joint	Location of Joint	Describe ONE specific example of a sporting action where the joint is used.
<b>Circumduction</b>	Ball and Socket	Shoulder	<b>Swimming - Back Crawl</b> Moving your arm 360° around the shoulder joint - from entry of hand into the water to exit of hand from water and re-entry.
<b>Extension/Flexion</b>	.....	.....	..... ..... ..... .....
<b>Rotation</b>	.....	.....	..... ..... ..... .....

**Total Mark**

**Turn over.**

4. (a) (i) Using the letters **A** and **B** place the following two activities on the continuum below. [1]

**A** = sailing;  
**B** = a gymnastic floor routine.

CLOSED \_\_\_\_\_ OPEN

(ii) Give reasons for the positioning of these two activities on the continuum. [2]

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(b) “To succeed in sport a sportsperson has to be highly motivated.”

(i) Indicate whether the following are intrinsic or extrinsic motivators:

- enjoyment;
- winning medals.

Answer by placing a tick (✓) in the correct column. [1]

Motivators	Intrinsic	Extrinsic
Enjoyment		
Winning medals		

(ii) Name **three** problems associated with an over-dependence on **extrinsic** motivation in sport. [3]

(I) .....

.....

(II) .....

.....

(III) .....

.....

(c) (i) Explain why **practice** is important for improving performance. [2]

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(ii) “To improve performance sportspersons may follow different methods of practice.”

Complete the table below to explain **each** of the methods giving appropriate sporting examples. [3]

Method of Practice	Explanation with appropriate sporting example
<b>Whole</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<b>Part</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<b>Fixed</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>



5. (a) (i) Give an example of an **open** skill. [1]

.....

(ii) Give **two** reasons to explain why **open** skills are usually more difficult to learn than closed skills. [2]

(I) .....

.....

(II) .....

.....

(b) Explain how **both** short-term memory and long-term memory are involved in the decision making process in sporting activity. [4]

(i) Short-term memory

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(ii) Long-term memory

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(c) “Setting SMART goals is important for development and progress in sport.”

Complete the table below, by using the headings provided, to explain why goals need to be SMART? [5]

<b>SPECIFIC</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<b>MEASURABLE</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<b>AGREED</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<b>REALISTIC</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<b>TIME PHASED</b>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>



(d) (i) “Effective feedback for a sports performer must be **accurate.**”

Outline **four** other ways in which a teacher/coach can make feedback effective for a sports performer. [4]

(I) .....

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(II) .....

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(III) .....

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(IV) .....

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(ii) Why should effective feedback include **both** Knowledge of Performance (KP) and Knowledge of Results (KR)? [4]

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**Total Mark**

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