

Surname	Centre Number	Candidate Number
Other Names		0



**GCSE**

4421/01



S16-4421-01

**PHYSICAL EDUCATION  
UNIT 1**

P.M. FRIDAY, 20 May 2016

1 hour 30 minutes

**ADDITIONAL MATERIALS**

DVD.

**INSTRUCTIONS TO CANDIDATES**

Use black ink or black ball-point pen.  
Do not use pencil or gel pen.  
Do not use correction fluid.

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

Answer **all** questions in the spaces provided in this booklet.

If you run out of space, use the continuation pages at the back of the booklet, taking care to number the question(s) correctly.

**INFORMATION FOR CANDIDATES**

The clips for Questions 1 and 2 in Section A will be shown three times.

Before the clips are shown you will have five minutes to read the questions. Two clips will be shown during which time you may answer the questions and make notes.

The clips will be shown a second time. There will be five minutes after each clip to answer the questions.

The clips will be shown for a third and final time.

There will then be approximately seventy minutes to complete Sections A and B.

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

You are reminded that assessment will take into account the quality of written communication used in your answers that involve extended writing in Section A (Q3 (b) and (c)) and Section B (Q.8, Q.9).

**Section A**

**Section B**

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	19	
2.	15	
3.	16	
<b>Section A Total</b>	<b>50</b>	
4.	12	
5.	9	
6.	11	
7.	6	
8.	6	
9.	6	
<b>Section B Total</b>	<b>50</b>	
<b>Overall Total</b>	<b>100</b>	

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**SECTION A**

*Answer all the questions in the spaces provided.*

1. View the sailing video and answer the following questions.

- (a) Describe how each of the components of fitness below are demonstrated in the video clip. [4]

<b>Component of fitness</b>	<b>Description of how the components are demonstrated</b>
Balance	..... .....
Co-ordination	..... .....
Strength	..... .....
Agility	..... .....

- (b) Name a recognised test for each of the components of fitness below. [4]

<b>Component of fitness</b>	<b>Test</b>
Balance	
Co-ordination	
Strength	
Agility	



(c) (i) Identify a method of training that could improve strength. [1]

.....

(ii) Explain how **increased** strength could improve performance, using a sporting example of your choice. [2]

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(d) Explain why it is beneficial for a sedentary person to improve his/her fitness. [4]

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(e) Explain why it is important to have variety in your training.

[4]

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2. View the football video and answer the following questions.

(a) Describe how the following components of fitness are demonstrated in the video clip. [3]

Components of fitness	Description of how components are demonstrated
Speed	<p>.....</p> <p>.....</p>
Power	<p>.....</p> <p>.....</p>
Agility	<p>.....</p> <p>.....</p>

(b) Draw a line to match the components of fitness to the appropriate definitions. [3]

Component of fitness
Speed
Power
Agility

Definition
A maximal muscular contraction
Changing direction at speed
Speed x strength
Travelling from A to B in the quickest possible time



(c) (i) Identify a method of training that could develop speed. [1]

(ii) Explain how the principles of training below could be applied to the training method identified in (c)(i). [4]

Principles of Training	Explanation of application to training method
SPECIFICITY	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
OVERLOAD	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

(d) Describe how **you** would warm-up for a physical activity of your choice. [4]

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(b) Discuss whether the taking of performance enhancing drugs should be legalised.

[6 QWC]

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(c) Describe the factors that have influenced **your** participation in sport and physical activity. [6 QWC]

A large rectangular area with horizontal dotted lines for writing.

16



**SECTION B**

*Answer all the questions in the spaces provided.*

4. (a) Name **two** factors that determine the energy system used during physical activity. [2]

- .....
- .....

(b) (i) Draw a line to match the main energy systems used to the sporting activities shown below. [3]

<b>Energy System</b>	<b>Sporting Activity</b>
ATP/CP	60 m Sprint
Lactic Acid system	Marathon
Aerobic system	400 m

(ii) Place the following exercise characteristics in the correct columns in the table below. [4]

- A Maximal
- B Heart rate between 60% and 80% of maximum
- C Continuous
- D Heart rate above 80% of maximum

<b>Aerobic training characteristics</b>	<b>Anaerobic training characteristics</b>
•	•
•	•



(c) Explain how heart rate could be used as a guide to a sportsperson's fitness. [3]

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5. (a) What is the main function of skeletal muscle? [1]

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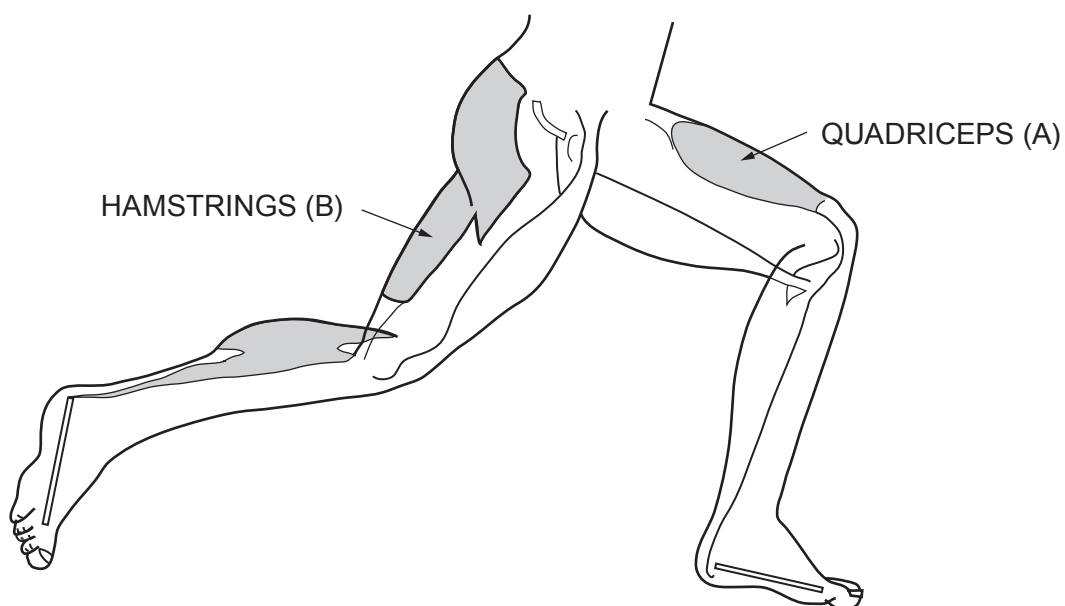
(b) In the diagram below, the Quadriceps (A) and Hamstrings (B) work together to enable movement to take place.

(i) Which muscle group contracts to extend the knee? [1]

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(ii) Which muscle group contracts to flex the knee? [1]

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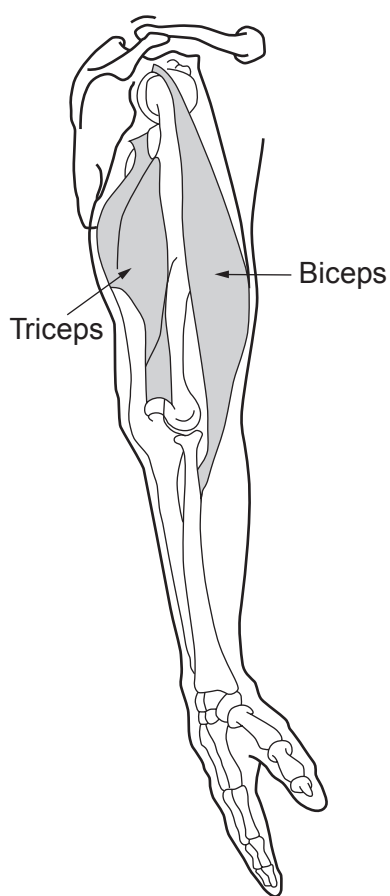
(c) In the diagram below, the Triceps and Biceps are working to enable movement to take place.

(i) Which muscle has relaxed to enable extension at the elbow? [1]

.....

(ii) Which muscle has contracted to extend the elbow? [1]

.....



(d) Name **four** possible effects of long term exercise on the MUSCULAR SYSTEM. [4]

- .....
- .....
- .....
- .....









7. (a) Which of the following skills would be described as a mainly CLOSED SKILL?  
Tick (✓) **one** box only.

[1]

Football Tackle

Hockey Dribble

Gymnastics Cartwheel

Netball Pass

(b) An OPEN SKILL is mainly:  
Tick (✓) **one** box only.

[1]

performed in the same situation with no variation

unaffected by the environment

a skill where few decisions have to be made

a skill involving responding to other players/factors

(c) Name and describe the type of practice you could use to develop an open skill and a closed skill.

[4]

(i) Open skill

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.....

(ii) Closed skill

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8. Processing information has four stages. Explain each stage for processing information in a named skill. [6 QWC]

INPUT → DECISION MAKING → OUTPUT → FEEDBACK

Dotted lines for writing the answer.

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