

Surname	Centre Number	Candidate Number
Other Names		0



**GCSE**

4421/01

**PHYSICAL EDUCATION  
UNIT 1**

P.M. TUESDAY, 14 May 2013

1½ hours

**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 page 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 (Q9, Q10).

**Section A**

**Section B**

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
<b>1</b>	<b>16</b>	
<b>2</b>	<b>16</b>	
<b>3</b>	<b>18</b>	
<b>Section A Total</b>	<b>50</b>	
<b>4</b>	<b>4</b>	
<b>5</b>	<b>11</b>	
<b>6</b>	<b>8</b>	
<b>7</b>	<b>6</b>	
<b>8</b>	<b>9</b>	
<b>9</b>	<b>6</b>	
<b>10</b>	<b>6</b>	
<b>Section B Total</b>	<b>50</b>	
<b>Overall Total</b>		

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M A Y 1 3 4 4 2 1 0 1 0 1

**SECTION A***Answer all the questions in the spaces provided.***1. Video clip of a fitness test.**

- (a) (i) Name the physical fitness test observed in the video clip. [1]  
Tick (✓) **one** box only.

30m sprint test

Sit and reach test

Multi stage fitness test

1 Rep max

Vertical jump

- (ii) Identify the major component of health related fitness that is being tested. [1]  
Tick (✓) **one** box only.

Cardiovascular endurance

Co-ordination

Balance

Flexibility

Speed

- (iii) Explain your answer given in 1(a) (ii). [2]

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(b) Describe the procedures for the test observed in the video. [3]

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(c) Identify **three** reasons why testing is important to a health or fitness exercise programme. Tick (✓) **three** boxes only. [3]

It allows

- Athletes to compare levels of fitness
- Athletes to realise the coach is in charge
- Athletes to increase or reduce the frequency of training
- Athletes to boast to other athletes about their fitness
- Athletes to measure progress
- Athletes to plan their holidays
- Parents to check up on the athletes
- Athletes to check their weight

(d) (i) Name a method of training that could be used to help in developing cardiovascular fitness. [1]

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(ii) Describe how this method of training would differ when designing a health related fitness programme for an athlete and for a sedentary individual. [2]

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(iii) In the table below identify the health benefits from following a fitness training programme. [3]

	Benefit
<b>Physical</b>	..... .....
<b>Social</b>	..... .....
<b>Mental</b>	..... .....

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2. Video clip of cricket.

(a) (i) Identify **one** of the main physical fitness components demonstrated by the batsmen in the video clip. Tick (✓) **one** box only. [1]

- Agility
- Flexibility
- Balance
- Strength
- Cardiovascular endurance
- Speed
- Muscular endurance

(ii) Explain your answer given in 2(a) (i). [2]

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(iii) Describe a method of fitness training that could be used to help in developing the component of fitness identified in 2(a) (i). [2]

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(iv) Describe how this method of training could improve performance in a sporting activity of your choice. [2]

Sporting activity .....

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(b) (i) Identify **one** main skill related fitness component demonstrated by the batsmen in the video clip. Tick (✓) **one** box only. [1]

- Reaction time
- Body composition
- Co-ordination
- Muscular endurance
- Cardiovascular endurance

(ii) Explain your answer given in 2(b) (i). [2]

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- (c) (i) Through observing the video clip, explain safety precautions that have been taken to minimise the risk of injury. [2]

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- (ii) Explain why keeping a diary, monitoring heart rate and counting calories consumed are important parts of evaluating a health and fitness programme.

Complete the table below.

[4]

Technique	Importance
Diary keeping	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
Heart monitoring	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
Calorie counting	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>



3. (a) (i) Give **three** reasons why Physical Education is a compulsory subject in the National Curriculum. [3]

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

(ii) Describe the factors that affect **provision** for sport in your local community. [3]

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(b) ‘Participation in sport and exercise is influenced by a number of factors.’ Discuss. [6]

A large rectangular area containing 25 horizontal dotted lines for writing an answer to the question above.





(c) 'Men's and women's sport have equal **media** coverage.' Discuss.

[6]

Ruled area for writing the answer to question (c).

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**SECTION B**

*Answer all the questions in the spaces provided.*

4. (a) **Physical Fitness** is: [1]  
Tick (✓) **one** box only.

Watching sport

Mental and Social Wellbeing

A set of attributes that are either health or skill related

Leisure time physical activity

(b) Name **one motivational factor** which has encouraged you to take part in physical activity. [1]

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(c) Suggest **one strategy** to ensure that you continue to take part in physical activity. [1]

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(d) Name **one recent technological development** which has encouraged participation in physical activity. [1]

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4



5. (a) Draw a line to link each term to its correct definition. [4]

Each term should be linked to **one** definition only.

**Term**

**Definition**

**ANTAGONISTS**

Muscles that are used to produce movement

**PRIME MOVERS**

Muscles that straighten a limb at a joint

**FLEXORS**

Muscles that bend a limb at a joint

**EXTENSORS**

Muscles that relax to allow movement to take place

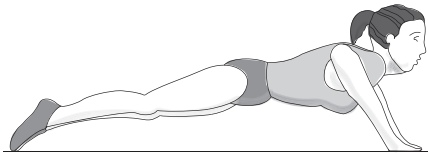


(b) (i) What is the definition of a **tendon**? Tick (✓) **one** box only. [1]

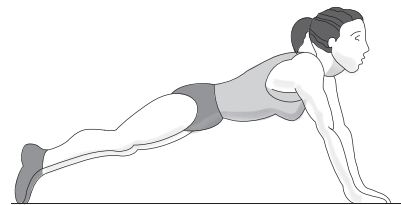
- Tendon is tough, elastic, fibrous cord attaching bone to bone
- Tendon is smooth, shock absorbing material preventing friction between bones
- Tendon is non-elastic connective tissue attaching muscle to bone
- Tendon is elastic tissue, that protects the joint

(ii) Whilst doing a press-up, what type of muscular contraction is taking place in the **triceps**, as you: [2]

**Raise yourself off the floor (1)**



**Hold the press-up position (2) ?**



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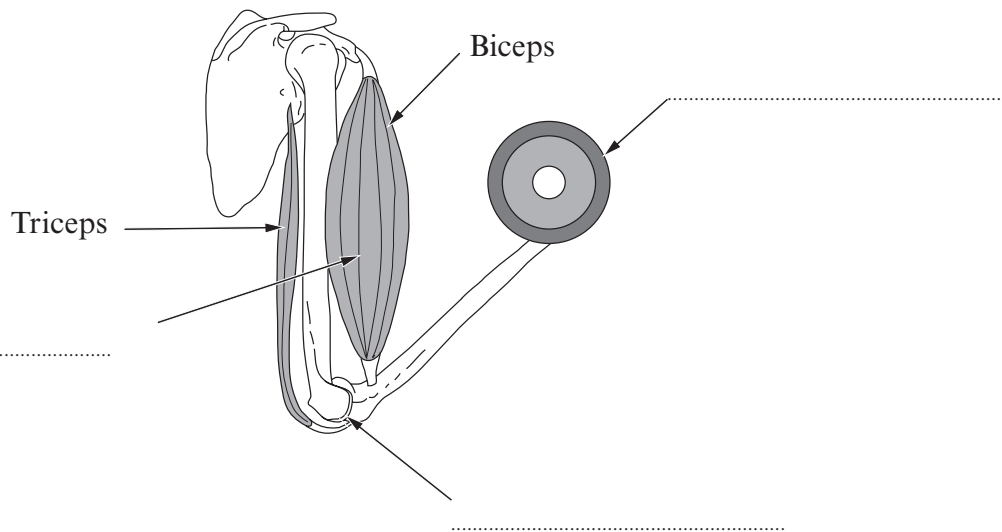
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(iii) The **3<sup>rd</sup> order lever** is the most common type of **lever** found in the body. Name **one** function of the **3<sup>rd</sup> order lever**. [1]

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(iv) Label the diagram to identify the effort (E), fulcrum (F) and load (L). [3]



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6. (a) Match the following responses to the relevant stages of the Information Processing Model. [3]

• INPUT      • DECISION MAKING      • OUTPUT

Response	Stage
The player's brain sends messages to his muscles to execute the shot.	
The player senses the speed, spin and flight of the ball.	
The player has to quickly opt on the most appropriate return.	

(b) (i) Give **two** reasons to explain how **feedback** helps in the learning process. [2]

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

(ii) Describe how a teacher/coach should **present** feedback to a sports performer. The following words may help: What? How ? When? [3]

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7. (a) Name **two** factors that can control body weight. [2]

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

(b) Body **composition** is: [1]  
Tick (✓) **one** box only.

- the relationship between height and weight
- the proportion of fat in the body compared to muscle and bone
- the ability to carry out a series of movements smoothly and efficiently
- the fat like substance found in blood

(c) (i) Which **nutrient** is the main source of energy for working muscles? [1]  
Tick (✓) **one** box only.

Carbohydrate	Protein	Fat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(ii) Which **nutrient** if taken in excess, can lead to obesity and high cholesterol levels? [1]  
Tick (✓) **one** box only.

Carbohydrate	Protein	Fat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(iii) Which **nutrient** releases energy slowly? [1]  
Tick (✓) **one** box only.

Carbohydrate	Protein	Fat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6



8. (a) Describe the characteristics of a sportsperson at the: [4]

- Cognitive stage of learning.

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- Autonomous stage of learning.

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(b) (i) **Ability** can be defined as: [1]  
Tick (✓) **one** box only.

Being able to produce the correct movement patterns at the right time

A particular movement pattern

Each attempt at a skill

The natural capacity for, e.g. speed, strength, etc

(ii) **Environmental factors** decide to what extent a skill is open or closed, e.g. weather. Name **two** other factors. [2]

- .....

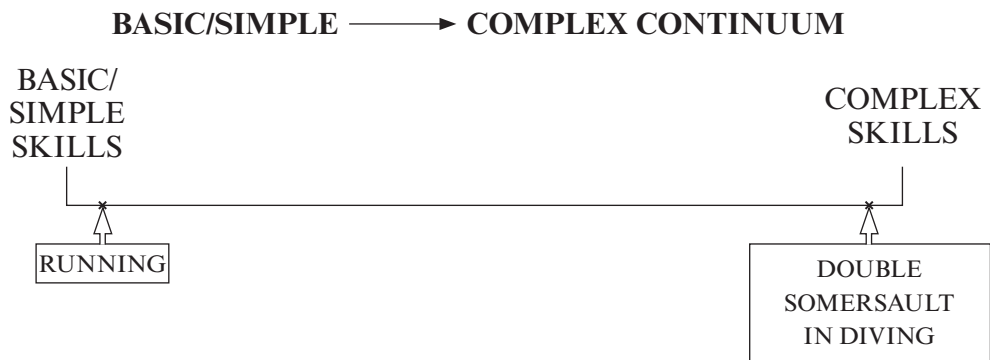
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(iii) Explain why the skills named on the continuum below have been placed in these positions. [2]



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9. Describe the factors which need to be considered for **practice** in physical activity to be meaningful and relevant. [6]

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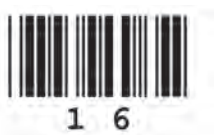
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