

Write your name here

Surname

Other names

**Pearson Edexcel**  
**Level 3 GCE**

Centre Number

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Candidate Number

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# Physical Education

## Advanced Subsidiary Component 1: Scientific Principles of Physical Education

Tuesday 23 May 2017 – Morning

**Time: 1 hour 45 minutes**

Paper Reference

**8PE0/01**

**You do not need any other materials.**

Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*

### Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- Questions marked with an **asterisk** (\*) require students to use their knowledge and understanding from across the course of study in their answer.
- Calculators may be used.

### Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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**Pearson**

**SECTION A – Applied anatomy and physiology**

**Answer ALL questions. Write your answers in the spaces provided.**

**1** Define the term **prime mover**.

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**(Total for Question 1 = 1 mark)**

**2** Name **two** movements that are possible at the ankle joint.

1 .....  
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2 .....  
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**(Total for Question 2 = 2 marks)**

**3** Using examples, outline the **two** types of isotonic muscle action.

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**(Total for Question 3 = 4 marks)**

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6 Two rugby players running towards each other go in to a tackle. Player A has a mass of 72kg and is accelerating at a rate of 2m/s/s. Player B has a mass of 57kg and is accelerating at a rate of 3m/s/s. Use Newton's Laws of Motion to:

(a) Calculate the resultant force at the point of impact. You must show your working.

(4)

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(b) Identify which player the resultant force favours.

(1)

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**(Total for Question 6 = 5 marks)**

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7 Describe the effects of an unhealthy lifestyle on the cardiovascular system.

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**(Total for Question 7 = 4 marks)**

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8 Explain how **four** different characteristics of fast glycolytic (type IIx) fibres enable them to be better suited for power activities.

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(Total for Question 8 = 4 marks)

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9 Explain how **three** structural adaptations cause a corresponding functional response in skeletal muscle as a result of power-based training.

Structural adaptation 1: ..... ..... ..... ..... (1)	Leads to functional response 1: ..... ..... ..... ..... (1)
Structural adaptation 2: ..... ..... ..... ..... (1)	Leads to functional response 2: ..... ..... ..... ..... (1)
Structural adaptation 3: ..... ..... ..... ..... (1)	Leads to functional response 3: ..... ..... ..... ..... (1)

(Total for Question 9 = 6 marks)

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**(Total for Question 10 = 12 marks)**

**TOTAL FOR SECTION A = 45 MARKS**



**SECTION B – Exercise physiology and applied movement analysis**

**Answer ALL questions. Write your answers in the spaces provided.**

**11** (a) Define the term **exercise economy**.

(1)

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.....

(b) Use a sporting example to outline exercise economy.

(2)

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**(Total for Question 11 = 3 marks)**

**12** Outline how **four** different supplements are used to aid an athlete in recovery.

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2 .....

3 .....

4 .....

**(Total for Question 12 = 4 marks)**

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15 Explain why an athlete would use assisted training.

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**(Total for Question 15 = 4 marks)**

16 Outline the factors that would influence the results gained from the Margaria-Kalamen fitness test.

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**(Total for Question 16 = 3 marks)**

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**(Total for Question 18 = 12 marks)**

**TOTAL FOR SECTION B = 45 MARKS  
TOTAL FOR PAPER = 90 MARKS**



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