

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

**Component 1: Scientific Principles of
Physical Education**

Monday 11 June 2018 – Morning

Time: 2 hours 30 minutes

Paper Reference

9PE0/01

You must have:
Calculator

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 in Sections A and B.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Questions marked with an **asterisk (*)** require candidates to use their knowledge and understanding from across the course of study in their answer.
- Calculators can be used.

Information

- The total mark for this paper is 140.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

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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P 5 2 4 6 2 R A 0 1 2 4



Pearson

SECTION A

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

1 Define the following movements:

(a) circumduction

(1)

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(b) plantar flexion

(1)

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(Total for Question 1 = 2 marks)

2 Using a sporting example, describe the term isometric contraction.

(2)

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(Total for Question 2 = 2 marks)

3 Using a sporting example, summarise Newton's Law of Action and Reaction.

(3)

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(Total for Question 3 = 3 marks)

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4 Outline the mechanical process of inspiration at rest.

(4)

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(Total for Question 4 = 4 marks)

5 Describe how oxygen is transferred from the alveoli to muscles at rest.

(4)

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(Total for Question 5 = 4 marks)



6 Summarise how oxygen delivery to the working muscles increases during exercise.

(4)

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(Total for Question 6 = 4 marks)

7 Summarise the functional adaptations to the heart as a result of aerobic training.

(6)

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(Total for Question 7 = 6 marks)

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9 Examine how the muscular system responds to a warm-up.

(8)

Area for writing the answer to Question 9, consisting of multiple horizontal dotted lines.

(Total for Question 9 = 8 marks)

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10 Examine how the slow component of recovery returns the body to homeostasis.

(8)

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Area with horizontal dotted lines for writing the answer to Question 10.

(Total for Question 10 = 8 marks)



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11 Examine how priming exercise affects subsequent performance.

(8)

Area with horizontal dotted lines for writing the answer to Question 11.

(Total for Question 11 = 8 marks)

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(Total for Question 12 = 15 marks)

TOTAL FOR SECTION A = 70 MARKS



15 (a) Define **one** repetition maximum.

(1)

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(b) Describe **three** problems in using the one repetition maximum method to calculate the intensity of training.

(3)

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(Total for Question 15 = 4 marks)

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16 Describe **four** acute injuries.

(4)

Area with horizontal dotted lines for writing the answer to Question 16.

(Total for Question 16 = 4 marks)



17 Describe the protocol for the RAST fitness test.

(4)

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(Total for Question 17 = 4 marks)

18 Outline POLICE as a strategy for recovery from injury.

(5)

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(Total for Question 18 = 5 marks)

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19 When performing a somersault, an athlete may over or under-rotate. Using examples, explain how each of these can occur.

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(Total for Question 19 = 6 marks)



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21 Explain how an athlete can manipulate their diet to prepare for a marathon run.

(5)

Dotted lines for writing the answer to Question 21.

(Total for Question 21 = 5 marks)



22 Assess the use of wearable technology to monitor activity.

(8)

Area with horizontal dotted lines for writing.

(Total for Question 22 = 8 marks)

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23 Examine the use of oxygen tents and hyperbaric chambers as recovery methods.

(8)

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Handwriting practice area consisting of multiple horizontal dotted lines for writing.

(Total for Question 23 = 8 marks)



***24** Discuss how an athlete would prepare for performance in a hot environment.

(15)

Area with horizontal dotted lines for writing the answer.

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(Total for Question 24 = 15 marks)

TOTAL FOR SECTION B = 70 MARKS

TOTAL FOR PAPER = 140 MARKS

