

534/01

PHYSICAL EDUCATION – PE4

A.M. WEDNESDAY, 31 January 2007

(1³/₄ hours)

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a 12 page answer book.

INSTRUCTIONS TO CANDIDATES

Answer **all** the questions.

INFORMATION FOR CANDIDATES

Mark allocations are shown in brackets.

Candidates will be assessed on their quality of written communication.

Answer **all** the questions.

1. “Government health and fitness campaigns are encouraging individuals to exercise regularly and more frequently.”
 - (a) Identify **three** components of fitness essential in any **health-related** exercise programme. [3]
 - (b) Explain how you could develop the three components of fitness identified in 1(a) within a **health-related** exercise-training programme. [5]
 - (c) Using **each** component of fitness from 1(a) identify **one** physiological adaptation **and** explain a subsequent health benefit which could result from such a training programme. [6]

2. “The amount of oxygen available to working muscles determines whether energy is released aerobically or anaerobically.”
 - (a) Explain when **and** why carbohydrates would be predominantly used in a sporting activity of your choice. [3]
 - (b) Explain the potential problems associated with high carbohydrate usage **early** in an endurance activity of your choice. [3]
 - (c) What strategies could you use to reduce the potential effects of high carbohydrate usage during your chosen endurance activity? [5]

3. “Results in fitness tests can be brought into question if there is a lack of reliability and validity.”
 - (a)
 - (i) What is meant by reliability and validity in fitness testing? [2]
 - (ii) Explain what procedures should be followed to ensure reliability and validity when fitness testing. [5]
 - (b) How could the results of fitness testing be **interpreted** and **used** by a coach or athlete? [4]

4. “The number of obese people in the world is now greater than those who are starving.”

Explain the influences that have caused such a rise in obesity and the individual lifestyle choices that can prevent further increases. [14]