

Advanced Subsidiary GCE

PHYSICAL EDUCATION

Unit G451: An introduction to Physical Education

Specimen Paper

G451

Morning/Afternoon

Time: 2 hours

Additional Materials: Answer Booklet (8 pages)



INSTRUCTIONS TO CANDIDATES

- There are three Sections in this paper.
- Answer **all** parts of the question in each of Sections A, B and C.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part of question.
- The total number of marks for this paper is **90**.

ADVICE TO CANDIDATES

- Read each question carefully and make sure you know what you have to do before starting your answer.

QUALITY OF WRITTEN COMMUNICATION

The quality of your written communication will be assessed in questions that are indicated accordingly (*). Marks will be awarded for spelling, punctuation and grammar, use of appropriate form and style of writing, and for organising work clearly and coherently.

This document consists of **4** printed pages.

Section A

Answer **all** parts of the question.

Anatomy and Physiology

Question 1

- a. In terms of fibre type, the composition of muscle is largely genetically determined and can influence the activities in which people participate.

Identify **two** structural and **two** functional characteristics of a slow oxidative muscle fibre.

If a person has a high percentage of slow oxidative fibres what type of physical activity are they more likely to participate in? [5]

- b. Explain how neural control of the heart helps to maintain the supply of oxygenated blood during exercise. [5]

- c. The skeletal pump mechanism is one way of helping to maintain venous return.

Describe **three** other mechanisms involved in venous return.

Explain the importance of the skeletal pump mechanism during an active cool-down. [5]

- d. Use the information in Fig. 1 to help explain the difficulties that an endurance performer might experience when performing at altitude without a period of acclimatisation. [5]

Altitude (height in metres)	Atmospheric pressure (mmHg)	Partial pressure oxygen (mmHg)
Sea level	760	159.2
2,000	596	124.9
4,000	462	96.9

Fig. 1

- e.* Taking part in physical activity is considered essential to maintaining a healthy lifestyle. However, taking part in some activities can result in injury and a reduction in activity levels.

Discuss **both** the positive and the negative impact of participating in different types of physical activity on the joints and muscles of the body. [10]

Section A Total [30]

Section B

Answer **all** parts of the question.

Acquiring Movement Skills

Question 2

- a. Developing movement or motor skills is important if you wish to follow a balanced, active and healthy lifestyle.

Describe what is meant by gross, fine, open, closed, high organisation and low organisation movement skills.

Use examples of motor skills to support your answer. [6]

- b. Abilities often affect participation and performance in physical activities.

Identify the characteristics of abilities.

Give examples of a gross motor ability and a psychomotor ability. [5]

- c. Identify **two** different mechanical products for movement skill learning.

Give reasons for the use of these mechanical products to guide a learner of a motor skill. [5]

- d. Why is it important to develop a quick reaction time when performing movement skills?

What factors could affect response time in physical activities? [4]

- e.* Arousal is seen as the amount of drive that we have. Arousal can affect our levels of motivation when participating in physical activities as part of a balanced, active and healthy lifestyle.

Compare and contrast drive theory, inverted U theory and catastrophe theory as explanations for the relationship between arousal and performance of motor skills. [10]

Section B Total [30]

Section C

Answer **all** parts of the question.

Socio-Cultural Studies relating to participation in physical activity**Question 3**

- a. Identify possible benefits to young people of regular participation in Outdoor Education activities such as canoeing, orienteering or hill walking as part of their Physical Education programme. [4]
- b. The media can have both positive and negative effects on sport.
Outline **both** positive and negative effects of the media on sport. [6]
- c. Identify possible benefits of hosting the 2012 summer Olympic Games in Britain. [5]
- d. Give reasons for physical activity (physical education, physical recreation and sport) being of such high status in Australia. [5]
- e.* Discuss factors that can influence young people's participation in the following aspects of physical activity: sport and physical recreation. [10]

Section C Total [30]

Paper Total [90]

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