**General Certificate of Education (A-level)
January 2011**

Physical Education   **PHED1**

(Specification 2580)

Unit 1: Opportunities for and the effects of leading a healthy and active lifestyle

Report on the Examination

PHED1
Opportunities for and the Effects of Leading a Healthy and Active Lifestyle

General

The AQA Specification for AS Physical Education has a single examination, PHED 1. The paper is divided into two sections, Section A and Section B. Section A contains six 12 mark questions, two on each of the topic areas of Applied Exercise Physiology, Skill Acquisition and Opportunities for Participation. Section B contains a single 12 mark question covering Applied Exercise Physiology and Skill Acquisition in a practical situation.

Many of the candidates' responses were disappointing, with detailed knowledge of many topic areas invariably scant. Instances of maximum marks for a question were quite rare; although it appeared that the majority of the candidature was able to achieve marks on most parts of the paper. In general, the topic areas of Applied Exercise Physiology and Opportunities for Participation were where candidates scored the most marks. The Skill Acquisition and Applied Exercise Physiology, and Skill Acquisition questions achieved the least marks.

Question One

This question was concerned with the mechanics of kicking, stamina and breathing.

(a) (i) This question was not particularly well answered. Whenever a question is set where a large range of answers, in this case the names of bones, are possible, but the required response is restricted (there are two articulating bones at the knee), examiners will only credit the candidate's first two responses. This prevents candidates listing as many bones as they can identify and getting the examiner to credit the correct answers. Many students incorrectly included the patella as one of their first bones that articulates at the knee joint. Many also incorrectly included the fibula as well. Tibula was another popular, incorrect answer.

(a) (ii) The majority of candidates were able to correctly identify the movement pattern as extension. A few suggested that it was hyper-extension, and some stated that it was a hinge joint, but this question was well answered by most candidates.

(a) (iii) This was usually well answered, with most candidates naming the quadriceps as the main agonist. Those candidates who did get the answer wrong mainly suggested gluteals or hamstrings as the main agonist. A few did name rectus femoris specifically and gained the appropriate credit.

(b) With this question, most students correctly identified carbohydrates as an energy source. Those candidates who didn't go on to achieve a maximum mark tended to be those who mentioned protein as a class of food for growth and repair of muscles, rather than fat as a secondary energy source.

(c)　(i)　This question produced a wide range of marks. Although many managed to achieve maximum marks, there were those candidates who did not name the process as diffusion. Some candidates failed to mention the location of the different partial pressures, whilst others forgot to mention the movement of carbon dioxide. Credit was given to those candidates who used the term 'concentration' rather than the correct term, 'partial pressure'. Many incorrect answers related to the transport of oxygen around the body and referred to haemoglobin and the Bohr shift.

(c)　(ii)　Many candidates achieved maximum marks for this question. Those who didn't generally repeated the question, saying that there is a large surface area. Some candidates simply listed the main components of the respiratory system.

Question Two

This question asked for details about high percentage body fat and the concept of cardio-vascular drift.

(a)　(i)　This question was generally poorly answered, with few candidates achieving full marks. Few candidates were able to provide an accurate definition of how BMI is calculated (weight $\div$ height^2). Answers were given credit if candidates managed to suggest that weight and height were the main parameters involved. Only the first two answers were given credit.

(a)　(ii)　There were many GCSE level answers for this question, with numerous candidates not using the key component of fitness, but preferring to speak generally about how obesity will cause you to tire or slow you down. The expectation is always that AS level is a step up from GCSE and requires more informative knowledge.

(b)　Once again, only the minority of candidates had a clear understanding of exercise physiology, even when the question gave them clear guidelines as to what to write about in their responses.

(b)　(i)　This question was generally well-answered, with most candidates achieving some marks. The relationship between cardiac output and stroke volume was less well-known, and some candidates incorrectly referred to cardiac output as being to do with oxygen or the lungs.

(b)　(ii)　This was poorly answered, with many candidates having no idea what cardiovascular drift was. As a consequence, very few candidates scored full marks. Some managed to gain credit, simply from reading the graph rather than through any knowledge of the concept.

(b)　(iii)　This question was essentially an extension of part (b) (i), and although it was answered better, it still managed to cause problems for many candidates. Better candidates were able to see the link between lower heart rate and higher stroke volume in trained performers.

Question Three

This required candidates to present details of their knowledge of the characteristics of skilled performance, the concept of insight learning and knowledge of feedback.

(a) (i) Here, the vast majority of candidates achieved maximum marks.

(a) (ii) Most candidates were able to gain some credit with this question. Full marks were awarded to those candidates who had learned Knapp's definition, in that skill is learned, has pre-determined results, and minimises both time and effort.

(b) The vast majority of candidates were unable to provide an adequate definition or explanation of insight learning, with very few achieving high marks on this question. Most candidates decided that insight must somehow refer to observational learning. Only the better candidates correctly identified the idea of a cognitive approach, where the performer understands the process to achieve the result and the skill is learned as a whole.

(c) For this question, there was a spread of marks across the range. The majority of the candidates were able to gain marks through identifying things such as use of positive and/or extrinsic feedback for beginners, and negative and/or intrinsic feedback for experienced performers. Credit was also given for correct identification of the differing stages of learning involved. Other forms of differentiated feedback, such as terminal as against concurrent and knowledge of results as against knowledge of performance, were identified less frequently.

Question 4

This question posed the candidates problems concerning transfer of learning and open loop motor control.

(a) (i) Many candidates correctly identified that positive transfer assisted the learning of a skill. Those who failed to gain credit invariably said that positive transfer had a positive effect. In such cases, repeating the words from the question will not gain credit.

(a) (ii) This question was more discriminatory. All types of transfer were mentioned but the most commonly awarded were negative, bilateral and zero. Many candidates mentioned proactive and retroactive transfer, but gave incorrect explanations. As in the previous question, candidates referring to negative transfer as having a negative affect did not gain credit as they were just repeating words from the question.

(a) (iii) This was not well-answered. Most candidates talked about reinforcement and making session's fun, rather than concentrating on the emphasis of the question in how to make sure transfer takes place. Answers including ideas such as making sure the original skill are well-learned and making the performer aware of the possibility of transfer would have gained credit.

(b) (i) The characteristics of an open loop control system were largely unknown, with many confusing the term with an open skill.

(b) (ii) Similarly, this question was misinterpreted by the majority of candidates to be concerned with open/closed skills.

Question 5

This question required candidates to identify the characteristics of rational recreation, to compare play to the moving and growing programme, and to suggest how schools and community sports clubs can increase participation.

(a)   This question was often misunderstood by candidates, who thought that rational recreation was mob football. When candidates did realise the nature of the question, the answers were quite good, with many gaining full marks either from the image provided, such as the development of kit, spectators, equipment; or through their own knowledge, such as officials, organisation, etc.

(b)   This question was poorly-answered with many candidates simply listing the characteristics of each concept and requiring the examiner to decide whether there were similarities and/or differences in their responses. Candidate answers should be clear and address the question, an area of exam technique that should be emphasised in centres.

(c)   The majority of candidates were able to offer the ideas of school-club links, extra-curricular activities and publicity materials. Better responses also involved SSCos, dual use facilities and an increased range or variety of activities as ways of increasing participation.

Question 6

This question was concerned with Government involvement in sport, private sector provision and ethnic minority participation. Candidates generally answered this question better than many of the others.

(a)   (i)   Only a minority of candidates could identify the aims of Sport England. These aims do change on a regular basis, but credit was given to all recent initiatives.

(a)   (ii)   This question was better answered, with many candidates correctly identifying the health and community benefits of increasing participation.

(b)   This was generally well answered with the themes of choice or range and opportunity being frequently used as advantages, while finance and elitism being the main identified disadvantages.

(c)   This question produced more credit-worthy answers with cultural, economic and discriminatory reasons being regularly provided as responses.

Question 7

This question asked candidates to talk about the use of fitness tests and the use of massed and distributed practice.

The banded mark scheme used for this stretch and challenge aspect of the examination requires candidates to do more that simply put down 12 creditworthy points to gain maximum marks. Marks are awarded for the whole of the response, based on what might be expected of a typically bright AS student's response – range and depth of knowledge, answering both areas of the question and using good technical language with appropriate grammar. To achieve higher marks, candidates should expect to identify 13-15 points from a 20 point mark scheme.

Many candidates misunderstood the question, going into great depth about the training programme they would use for a group of AS students. The average response of most candidates was at a very low level and tended to lack any real depth of knowledge. Superficial answers from candidates would often simply name various fitness tests and go into great detail of how to conduct these tests. Many candidates tended to just write down what they knew, rather than specifically answering the question. Few candidates knew more than the simplistic idea that fitness tests measure initial fitness and any improvements in fitness, and that some fitness tests were not that accurate. The knowledge of Massed and Distributed practice was generally less extensive than that of fitness. Many candidates knew little beyond the idea that massed practise involves little or no rest, whereas distributed practice has rest intervals. The idea of how best to use these different forms of practise, with factors such as stage of learning, level of fitness, type of skill, level of motivation, etc, was rarely mentioned. Even when identified, some candidates then failed to suggest which type of practise would be best with which type of performer or skill.

Once again there was ample evidence of the candidates making assumptions about the group that prefaced the question. Many implied that a group of AS PE students could not possibly be beginners or learners and therefore failed to use these thoughts in their responses. The use of a group of AS PE students as a group of subjects will be the norm for this question. Such a group of subjects can easily be novices when it comes to any aspect of the Applied Exercise Physiology and Skill Acquisition in a practical situation question.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the Results statistics page of the AQA Website.