Version

General Certificate of Education (A-level)
June 2011

Physical Education PHED1

(Specification 2580)

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

Report on the Examination

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Set and published by the Assessment and Qualifications Alliance.

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General

The AQA Specification for AS Physical Education has a single examination, PHED1. The exam paper for this unit 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. As is usual with an AS examination paper, there was a large range in the quality of answers from students. The examination paper contained a number of questions that provided excellent opportunities for differentiation, while still allowing the more able students to score higher marks. 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 students scored the most marks, whereas conversely, the Skill Acquisition, and Applied Exercise Physiology and Skill Acquisition in a practical situation questions achieved the least marks.

This paper was the first that was written in light of previous PHED1 examination responses and, as such, was designed to allow for a greater range of responses, especially in question 7. This trend should be expected to continue.

Question One

This question was concerned with muscle actions during a squat, strength and the diet of a weightlifter.

a) The majority of students were able to identify at least some of the terms required in this question, with many scoring maximum marks. There was some confusion over the main agonist for hip extension, with many students incorrectly suggesting the quadriceps. The plantar flexion that occurred at the ankle, with the gastrocnemius as the main agonist, was well-known, as was the type of contraction; isotonic or concentric.

b) Virtually all students provided an answer for this question although they were generally incorrect. The two types of strength involved are explosive strength during the powerful lift and static strength when holding the bar in position. Dynamic strength was not credited as it is concerned with the repetitive movements more associated with muscular endurance.

c) The majority of students gained credit for identifying power as an important fitness component for weightlifting and correctly suggesting that it is speed $\times$ strength. Other common correct responses were balance, speed and flexibility. No credit was given for stamina or muscular endurance as these were not considered to be important fitness components in weightlifting.

d) In this question, a large majority of the students correctly suggested that both more carbohydrates and more proteins were required by weightlifters, because of the need for muscle repair and energy.

Question Two
This question asked for details about several cardio-vascular regulatory mechanisms and levers.

a) i) This tended to be poorly answered, with many students unable to relate any detail concerning Starlings law of the heart. The simplistic idea is that an increase in venous return because of exercise results in greater diastolic filling, which in turn results in an increase in contractility of the heart and hence greater stroke volume. Many students limited their responses to superficial descriptions concerning the need for oxygen and hence a corresponding increase in heart rate causing an increase in stroke volume.

a) ii) There were many students who failed to understand the detail required by this question. The phrasing of the question was used to 'guide' students to the required answer, namely that the heart controls its own beating; it is generated intrinsically. Unfortunately, many students misinterpreted the question and described the regulatory mechanisms of the heart. These two topics have caused confusion before in legacy question papers. Schools and colleges need to ensure that students are able to distinguish between the different responses needed, while the examining team will make every effort to clarify, where possible, the responses expected from the question.

b) The explanations provided by the majority of students for the venous return mechanism were generally accurate and many correctly identified the action of venous valves, the skeletal muscle and respiratory pumps.

c) The majority of students who correctly identified the lever system at the knee joint as a third class system were invariably also able to provide a fully labelled diagram of the system. It was pleasing to note that there were fewer artistic drawings of whole legs and more of the expected, simplistic line drawings of the lever components than in previous years.

Question Three
This question required students to present details of their knowledge of performance curves and selective attention.

a) i) Most students were able to identify the existence of a learning plateau from the graph and generally added the codicil that this could be seen where performance was not improving. Many students also gave suitable causes for the plateau, which was not required and received no credit.

a) ii) The majority of students were able to gain some marks for this question although there was evidence of students failing to fully understand the requirements of the question. The question asked for possible solutions to limit the plateau identified in question **3 (a) (i)**. When a question asks for an unspecified number of responses, then generally the number of marks available for a question would indicate the number of responses required, in this case 4. Many students failed to develop their responses to include the required number of answers. The idea of increasing motivation was often quoted, but needed developing to suggest how it could be increased. Other responses, such as providing rest intervals, changing the approach to teaching and/or the teacher, were also worthy of credit.

b) i) This question required detailed knowledge of selective attention and an example of that construct from a game. For two marks, students needed to clearly identify the idea of ignoring irrelevant stimuli while concentrating on relevant stimuli, rather than giving general statements about watching the ball and not the crowd. Many students failed to provide a suitable example, either from not using a game scenario, or by failing to clearly identify a suitable stimulus that should be ignored and another that should be concentrated on.

b) ii) Many students gained marks for this question, with responses such as highlighting suitable cues, increasing the intensity of the stimulus and motivating the performer all worthy of credit. One invariable response that requires clarification is the idea that practise improves selective attention. Practise only gains credit as a response if it is clarified that the practise must be relevant or suitable.

Question Four

This question posed the students with questions concerning motivation and recall schema.

a) i) Most students were able to provide a suitable definition of intrinsic motivation, but many did not look at the mark allocation (2 marks) and think how that second mark could be gained and extend their answer to include a definition of motivation.

a) ii) This was a difficult concept for many students to explain, with extrinsic motivation often being suggested as a transient idea more akin to extrinsic feedback. Simplistic statements such as extrinsic motivation can supplant intrinsic motivation, that excessive extrinsic motivation eventually loses its effect or that removal of extrinsic motivation may lead to loss of motivation entirely, were all worthy of credit.

a) iii) The majority of students were able to identify suitable methods of motivating a mixed ability group. Ideas such as the use of rewards, make it fun, positive feedback and setting goals would have given the student maximum marks for this question.

b) Questions on schema theory have always tested the students and this was no different. Where known, the simple responses of identifying the two areas of schema used in recall (initial conditions and response specifications), and suggesting what they actually are (what can I identify in this situation and what is required of me?) was enough for maximum marks. Less creditworthy responses simply hit upon the idea that recall must be something to do with memory.

Question Five

This question required students to identify the characteristics of play and sport, Sport England initiatives for achieving its objectives of 'grow, sustain, excel' and the role of the Youth Sport Trust in developing PE and school sport opportunities.

a) i) This question was generally well answered. The vast majority of students were able to gain credit for the idea that pleasure equated to fun. The discrimination between responses was between those students who simply gave a definition of play and invariably gained no further marks, and those who sought alternative words for 'without ulterior motive' and gained the mark for saying that play involved intrinsic rewards or the equivalent. It should be noted that the simplistic response that play is intrinsic was not given credit.

a) ii) Many students found it hard to provide an answer that discriminated between sport and play in that they simply provided a list of statements such as 'competitive, rules and rewards.' The examiners assumed that they were answering the question correctly, from the point of view of sport, but similar responses were more difficult to mark, as it was obvious that some students had responded with comments about play. Schools and colleges should be prepared to teach exam technique as well as specification facts, because where questions ask for one-sided responses, marks can be lost by not doing so.

b) Students found it relatively difficult to gain marks on this question, despite the fact that over 20 initiatives, such as 'Best Value', Playground to Podium', 'Sport Action Zones' and 'Sportsmark' were included on the mark scheme. Most students' responses were entirely superficial, claiming that Sport England's initiatives were concerned with increasing participation. There were often more spurious claims for this agency from building Wembley stadium to organising the Olympic Games.

c) This question was also poorly answered and served to confirm that the majority of students have only superficial knowledge about the roles of different agencies in the organisation of physical activity in the UK. This is a point that should be of concern to schools and colleges. Knowledge of the Youth Sport Trust must be developed beyond the idea that they help to develop Physical Education and school sport opportunities. The Youth Sport Trust is especially concerned with disinterested and disabled children, are supportive of School Sport Partnerships as well as helping to encourage more volunteers in terms of leaders and coaches.

Question Six

This was concerned with similarities and differences between previous and present PE syllabuses, potential ways of increasing female participation in PE and the characteristics of the private sector of facility providers.

a) Only a minority identified and provided similarities and differences between the syllabuses despite the question requiring both. Many students failed to identify any similarities, whereas differences were much more evident. Similarities between the syllabuses are that they were both compulsory, centralized and concerned with health benefits. Descriptions of military drill were credited, as were the wider range of activities and different roles of the current N.C.P.E.

b) This question was well answered overall, with the majority of students able to provide suggestions such as making PE fun, female only sessions, a wider range of activities and advertising campaigns.

c) The characteristics of the private sector were well-known, although suggesting that the private sector is run privately was too simplistic to gain credit.

Question Seven
This question asked students to talk about the benefits of a warm up and the use of progressive part practice.

The banded mark scheme used for this stretch and challenge aspect of the examination requires students 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 all (both) areas of the question and using good technical language and grammar. Students who use bullet points rather than answering in continuous prose, as required by the question, are severely restricted in which band they attain.

As was the case in previous examinations, many students' responses lacked any real depth of knowledge. Many students once again suggested that as the performers were AS PE students, they must be elite performers in the autonomous stage of learning whereas the question never describes the skill involved. Other students decided that as there was a mention of a training programme in the preamble, then they should describe, often in great detail, a possible training programme for these elite autonomous stage performers.

Students who didn't make this assumption, often still failed to provide suitable responses. Many students decided that the only way to measure intensity of training was to provide a fitness test, usually a 'bleep' test or Cooper's 12 minute run test, and use performance in these as a measure of intensity. For continuous training, the two main ways of measuring intensity are through the use of heart rate monitors and either a percentage of maximum heart rate; the 'heart rate training zone' or using the Karvonen formula to predict a suitable training heart rate. The other method is the subjective Borg scale. Those students who identified these methods of measuring intensity tended to achieve more marks.

Student knowledge of guidance tended to be in more detail than their knowledge of methods for measuring intensity. Many students gained some credit by answering this part of the question having previously failed to gain any credit for measuring intensity. Most students were able to identify the main types of guidance, although there was some confusion in many responses between manual and mechanical guidance. As has been previously mentioned in PHED1 Principal Examiner reports, responses to the skill aspects of this question need to be concerned about the nature of the task, the situation and the nature of the learner. The nature of the task rather depends on its complexity and coherence. The situation depends largely on whether an element of danger may be involved and how time-consuming progressive part practice is. The nature of the learner depends on the stage of learning and whether the performer is capable of remaining motivated for the duration of the instruction.

Mark Ranges and Award of Grades

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

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