



General Certificate of Education

**Physical Education 1580
PHED1**

Report on the Examination
2010 examination – January series

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Set and published by the Assessment and Qualifications Alliance.

PHED1

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

General

The AQA Specification for AS Physical Education (PE) has a single examination, PHED1. The paper is divided into two sections, A and 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. There were a number of questions that provided excellent opportunities for differentiation, and allowed the more able candidates to score higher marks. As is usual with an AS examination paper, there was a large range in the quality of answers from candidates. Instances of maximum marks for a question were quite rare, although it appeared that most 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, whereas conversely, the Skill Acquisition and Applied Exercise Physiology and Skill Acquisition questions achieved the least marks.

Question One

This question was concerned with dietary fat, and breathing.

- a)
 - i) The majority of candidates correctly identified the role of fat as an energy provider, although fewer candidates went on to suggest that this energy was produced slowly or during low intensity activity. Many candidates identified that a secondary role of fat was an insulator, although there was also a tendency for candidates to state that fat acted as protection and that fat generated warmth.
 - ii) Here the majority of candidates were able to gain marks, although the range of marks and responses varied between centres. Some candidates failed to associate the concept of a three mark question requiring three responses, and only offered one or two diseases as answers. Several others became confused and listed 'heart attacks', 'myocardial infarction' and 'heart disease' as three separate diseases. Only clearly stated diseases, such as 'heart attack', rather than 'heart problems' or 'atherosclerosis' rather than 'clogging up of arteries' were given credit. The list of acceptable answers/diseases grew to twelve, but centres should refrain from teaching all twelve, as it would appear unlikely that there will be a twelve mark question requiring all diseases associated with obesity to be identified.
- b)
 - i) A large proportion of candidates incorrectly identified lung volume B as 'tidal volume', rather than the correct term 'inspiratory reserve volume'. The interpretation of spirometer readings remains a standard type of question for this specification.
 - ii) In this question, an inability to correctly identify lung volume B did not preclude candidates from gaining marks, where the majority of candidates either described the effect on the spirometer trace ('higher and lower') or the effect on the lung volume ('increases') to gain a mark. Considerably fewer candidates gained the second mark by suggesting a change in frequency of trace/rate.
 - iii) The more able candidates scored well on this question, often achieving maximum marks, but many still find exercise physiology a difficult concept to grasp. Many candidates talked of an increase in heart rate, or a demand for oxygen that was the cause of an increase in breathing rate.

Question Two

This question asked for details about stamina and the effects of lifestyle choices on a games player. The anatomy of running and control of heart rate were also linked in to this question.

- a) i) This was generally poorly answered, with few candidates able to provide a concise and accurate definition of stamina and/or failing to put that definition into context. In simple terms, stamina is the 'ability to delay fatigue'. The reason why it is important in games is that they last a long time, eg 90 minutes for football.
- ii) In this question, there were many GCSE level answers. The basic idea that a named lifestyle choice would affect stamina, eg 'smoking affects stamina' or 'training improves stamina' was considered too simplistic to deserve credit. More detail as to the effect (positive or negative) of a named lifestyle choice on stamina was required to gain marks. Hence the better and creditworthy answers were 'smoking leaves tar in the lungs which reduces stamina' and 'training makes the heart bigger and this improves stamina'.
- b) The anatomical aspects of this question differentiated across the cohort. Many candidates correctly identified the transverse axis, quadriceps and extension, but very few managed all three.

The main concern appeared to be where large numbers of candidates did not recognise that the knee extends during the drive phase.

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

Question Three

This question required candidates to present details of the knowledge of the characteristics of skilled performance, the concept of motivation and knowledge of schema theory.

- a) Here most candidates were able to gain some credit. 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) i) The majority of candidates were able to provide an adequate definition of motivation, with terms such as 'drive', 'want', 'desire' to 'do', 'achieve' and 'learn being worthy of credit. Whilst this point was identified frequently, surprisingly few candidates picked up a second mark. Candidates should look at the mark allocation to develop their examination technique further as many thought that they could score marks just for a five or six word definition.
- ii) The majority of candidates were able to gain marks through identifying things such as use of rewards and praise, making practice fun and allowing success.
- c) Answers to this question indicated that whilst schema theory is taught to many candidates, it is understood by relatively few. Although some candidates were able to name the key terms, very few were able to identify how they were used during the performance of a skill as required by the question.

Question Four

This question posed the candidates with problems concerning short-term and long-term memory, and operant conditioning.

- a) Many candidates identified at least two correct characteristics and functions of short-term memory from an extensive list of potential correct answers.
- b) This part was more discriminatory. Whilst most candidates suggested that 'practice' was a good way of making sure important information was stored in long-term memory, only the more discerning candidates were able to add to this idea. Terms such as 'chunking' and 'chaining' were credited, as was the idea of making the information 'more meaningful'. However, 'making the information more memorable' was considered too near to repeating the question to be worthy of credit.
- c) i) Here there was evidence of a lack of knowledge of operant conditioning. The majority of candidates correctly identified either the concept of 'reinforcement' and the 'strengthening of the S-R bond', but far fewer identified both. Surprisingly few candidates identified the key idea of 'trial and error learning'.
ii) In this question, the example of a punishment was identified by many candidates, as was the use of rewards/praise and negative reinforcement. The problem for many students was that they failed to identify how to use negative reinforcement or punishment.

Question Five

This question required candidates to identify the roles of public schools and universities in the development of rational recreation, and to discuss whether women are still being discriminated against in terms of sporting opportunities.

- a) i) This was generally poorly answered with the idea of 'rules' being developed as the only creditworthy response.
ii) 'Melting Pots' was a commonly used term as was 'Codification'. In most candidates' responses however, there was a general lack of focus when referring to factory teams and the British Empire with students talking about the public school boys taking the games out into the work place or the army officers taking the games abroad.
- b) i) This question was generally well-answered with most candidates achieving maximum marks.
ii) Here there were plenty of opinions about how opportunities for women to take part in physical activities were the same as or different to those of men. The majority of candidates offered media-based or anecdotal evidence that women receive less publicity and money than men. Relatively few candidates talked about opportunities for participation, which is the title of this part of the specification.

Question 6

This question was concerned with National Curriculum Physical Education and extra-curricular sport.

- a) i) Only a minority of candidates could identify all, or even the majority of sport classifications.
- ii) Although this question saw better answers than 6 a) i), only a minority of candidates could identify three roles apart from performer. Considering that this cohort had taken part in the programme, this question did not reflect well on their memory of school PE provision.
- b) i) Answers to this question suggested that AS candidates are media-orientated. Very few candidates could identify themselves as being involved in sport. The concept that sport was for professionals was a re-occurring theme in many responses. Candidates' knowledge of the characteristics of physical education was similarly sparse. The idea that PE was 'taught' was often the limit of responses.
- ii) This question produced more credit-worthy answers. Whether this was due to candidates' depth of knowledge or ease of marking was difficult to infer. The majority of candidates correctly identified the idea of using activity clubs outside of lesson-time. Often this resulted in two marks for the simple response of having 'after-school clubs'. Bringing outside or peripatetic coaches was a popular response as was providing teams and matches.

Question 7

This question asked candidates to talk about safe stretching and use of visual and manual guidance. The banded mark scheme used for this stretch and challenge aspect of the examinations requires candidates to do more than simply put down twelve credit-worthy 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 using good technical language and grammar.

As was the case in the summer 2009 examination, most responses lacked any real depth of knowledge. Superficial answers from candidates named different types of stretching, but they rarely further developed their answers to include some idea of how that particular type of stretching worked. The notion that in this type of stretch the position was held gained no credit, as all the different types of stretching mentioned in the specification involve the stretch being held. It is how the stretch is held that distinguishes them from each other. On a similar vein, a large proportion of the candidates talked in relative depth about 'dynamic' stretching. This topic is not in the specification, does not get examined and is therefore not in the mark scheme. Many candidates described in detail how to measure flexibility, or provided detailed descriptions of stretching exercises and programmes, as well as describing using stretches as a warm up rather than only stretching after warming the muscle up.

Candidate's knowledge of visual and verbal guidance appeared to be slightly better than that of stretching techniques, but that was largely down to the paucity of knowledge about the latter. Many candidates showed little knowledge beyond the idea that for visual guidance you show how to move and for manual guidance you physically force movement. The ideas of whom best to use these different forms of guidance with, and how best to use them, were not included in the majority of responses.

The question relates to developing the flexibility of a group of AS Level PE students. However, candidates sitting the paper made the assumption that such a group of students could not possibly

be beginners or learners, thus restricting their responses. Such a group of students can easily be novices when it comes to any aspect of Applied Exercise Physiology and Skill Acquisition and can be easily taught things that they have never encountered before, or that they have yet to clearly grasp.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA website www.aqa.org.uk/over/stat.