



**General Certificate of Education (A-level)
June 2012**

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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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, PHED1. The exam paper for this unit is divided into two sections, A and B. Section A contains 6 twelve mark questions, 2 on each 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. The Summer 2012 examination paper contained a number of questions that provided excellent opportunities for differentiation, and allowed the more able students to score higher marks. Several questions required two correct responses to elicit a single mark. This was in topic areas where it was considered that a two word/phrase response was not worthy of two marks. It was felt that the topic area of Applied Exercise Physiology was where students scored the most marks, whereas conversely, the Skill Acquisition questions achieved the least marks.

Question One

This question was concerned with fitness and health, movement analysis and breathing.

- (a) (i) The majority of students correctly defined both health and fitness. This question only permitted a single mark for two correct responses because it is felt that definitions of health and fitness, and other simplistic terms, such as fitness components, are almost at the stage where they should be assumed knowledge for AS students.
- (a) (ii) The majority of students provided answers for this question although the range of marks, and responses, varied considerably. Although many students correctly suggested that health could affect fitness, far fewer were able to extend this to provide more detailed suggestions that being unhealthy might limit a performer's involvement in exercise and therefore make them less fit or that, despite being unhealthy, performers could continue to exercise and develop their fitness levels.
- (b) This question provided a range of marks for the candidature. Most gained three or four marks, with the description of 'horizontal flexion/adduction' at the shoulder proving to be the least well-answered part of the question, while the vast majority were able to identify flexion at the elbow.
- (c) This question was generally well-answered, with many students achieving maximum marks through identifying the regulatory mechanisms involved in increasing breathing rate. Some students however struggled with this question as it required more than a simplistic knowledge of the process. A considerable number of students provided a learned answer, and talked about regulation of heart rate.

- (d) Although the majority of students were able to provide a suitable characteristic of the membranes involved in diffusion, such as being thin or having a short diffusion pathway, fewer were able to identify two such membranes as required by the question. Alveoli was often presented as a response, however, 'lungs' was not credited. Knowledge of other membranes, such as capillaries or muscle, was generally weak.

Question Two

This question asked for details about fitness components, structure and function of blood vessels, and the roles of myoglobin and haemoglobin during exercise.

- (a) (i) This question was not very well answered. Students were required to identify two skill-related fitness components important to a 400-metre hurdler. There was considerable confusion among the candidature as to what constituted a skill-related fitness component rather than the specific components required by the 400-metre runner, with speed often being incorrectly listed as a skill-related component.
- (a) (ii) Knowledge of health-related fitness components was better than the skill-related components from the previous question. A further problem for the students was the fact that stamina and/or muscular endurance were considered inappropriate responses for this question, as neither are essential for performance in shot put. Schools, colleges and students should refer to the specification for a clear list of what components belong to which category.
- (b) (i) Approximately half of students were able to correctly identify blood vessel C as representative of veins.
- (b) (ii) This question provided clear differentiation between the students, with differing proportions gaining marks across the range available. The mark scheme required mention of the tissue involved rather than its size or function. Thus 'muscle layer' was credited, whereas 'thick layer' was not. Many students were unable to use appropriate technical language.
- (c) (i) Although the majority of students were able to correctly identify muscle as the location for myoglobin, the range of alternatives offered by students was mixed, with the expected incorrect response of 'blood' being common. Other incorrect responses were liver, heart, brain and lungs. The role of myoglobin as an oxygen store/supplier was generally well-known by the students.
- (c) (ii) In previous examination series, questions on the topic of the oxyhaemoglobin dissociation curve have proved to be poor discriminators, with only a small percentile of the candidature gaining maximum marks. The intention of this question was to provide a lead in to the correct response by providing the term 'shift' in the question. This appeared to help focus the students as there was clear differentiation in responses. Credit was awarded for the use of technical terms such as 'dissociation' and/or 'less saturation'.

Question 3

This question required students to present details of their knowledge of short term memory, open and closed skills, and response time.

- (a) This question required students to apply their knowledge of short-term memory to a practical scenario, rather than simply state factual knowledge. This proved quite difficult for many students. Better responses identified the roles of the short term sensory store and/or the senses providing information to the short-term memory, the need for decision-making and the use of the short term memory to receive and execute motor programmes from the long-term memory. The characteristics of the short-term memory were not required.
- (b) The majority of students were able to gain some marks for this question. But there was the perennial problem of students confusing the idea of open-closed continuum being determined by the weather instead of the environment. This was another question where two aspects were required within the response for a single mark; thus 'open skills involve a changing environment and an example of such a skill in a team game is passing' would gain one mark. Many students lost marks by failing to provide an example from a team game.
- (c) (i) The majority of students were able to distinguish reaction time and movement time, although occasionally the phrasing used by the student made the answer inaccurate. Thus 'reaction time is the time taken to respond' or 'movement time is from the start of the response to the end of the response', were considered too vague. 'Reaction time is the time taken to react' and 'movement time is the length of time the movement takes' were also considered too vague to be worthy of credit.
- (c) (ii) Many students failed to gain full marks for this question by not providing clear definitions of both choice and simple reaction times, and/or not describing the greater incidence of the former in team games. Once again credit was not given for examples that were not from team games.
- (c) (iii) This question provided opportunities for students to gain marks by simply listing three methods of improving response time. This proved to be a good discriminating question with a range of responses. The simplistic term 'practise' was not credited; rather students are expected to provide more detail as to what should be practised. Many students suggested that games players should practise 'starting to a gun', which was considered to be an inappropriate type of practice for team games players.

Question Four

This question posed the students with problems concerning the characteristics of skill, transfer of learning and schema theory.

- (a) This topic was generally well-answered, with other half of all students gaining maximum marks. Many students used a mnemonic to identify the characteristics of skill, whilst others gave a correct recital of Knapp's definition of skill.
- (b) Many students appeared to confuse their definition of transfer of learning with their definition of positive transfer. As has been mentioned in previous reports, the use of the words positive, negative and zero to describe the effects of transfer were not given credit, and that transfer is between skills in sports, not between sports per se.
- (c) (i) Once again, Schema theory proved a difficult concept to understand for many students, with only a minority of the candidature securing any marks. Students who understood schema theory generally achieved four marks, especially if they could distinguish between recall and recognition schema. Again the use of the correct terminology was essential to achieve marks.
- (c) (ii) In this question, students were required to use their knowledge of schema to suggest ways of practising skills. The essence of this answer is to suggest that practices should be varied in terms of the initial conditions so that a variety of response specifications and movement outcomes are developed.

Question Five

This question required students to identify similarities and differences between play and recreation, discuss public provision and the 'best value' policy.

- (a) This question discriminated well, with only a minority of students achieving the full complement of four marks, although the majority of the candidature scored half of the available marks. Some students failed to distinguish 'similarities' and 'differences' in their responses, even to the extent that they sometimes offered conflicting ideas such as 'both play and recreation are for fun, but only play is enjoyable'.
- (b) (i) The characteristics of the public sector were well-known by the majority of the students, although several confused the public and voluntary sectors. The most common error was the suggestion that public facilities are Government owned/run.
- (b) (ii) Most students gained some marks on this question, with responses such as 'best value for money' gaining credit. The idea of using private sector methods of finding out what local people want and expect, and delivering services to match those standards was not generally well-known. Many students had learned the summative terms consult, compare and compete.

- (c) This question was generally well-answered, with simplistic ideas such as advertising, reducing costs and adjusting timings being suitable for maximum marks.

Question Six

This question was concerned with rational recreation and discussion of the effectiveness of equal opportunity policies.

- (a) (i) Students' knowledge of rational recreation varied from a detailed understanding to a total lack of understanding. When known, rational recreation was clearly explained. However some responses were often too simplistic, for example 'rules' was insufficient to be credited. Complex or written rules were required. Similarly a list of regulations such as kit, officials, boundaries, times would have elicited a single mark. Some students suggested rational recreation was about elite performer preparation, while others incorrectly suggested that rational recreation was what NGBs organised.
- (a) (ii) This question was poorly answered with few students showing knowledge of the changes in society that led to the rationalising of sport beyond the development of the railways. The role of philanthropists, industrialisation, urbanisation, the church and the civilising of society were seldom mentioned.
- (b) This proved to be a good discriminatory question as many students found it difficult answering a question which required them to give both sides of an argument without obvious repetition. Students were required to show their understanding of the topic by being able to discuss whether solutions to discrimination had been effective. This meant that a 'yes it has, because' response, needed to be followed by a 'no it hasn't, because' response. Many students found this to be a difficult concept, but 'discuss' is a command word that has been used before in PHED1 and will be used again. There was evidence of students being aware of recent campaigns and sporting bodies targeting certain groups in different ways. The question was often answered from a variety of perspectives.

Question 7

This question asked students to talk about how to stretch safely and the use of whole practice.

The banded mark scheme used for this stretch and challenge aspect of the examination requires students to do more than simply put down 12 creditworthy points to gain maximum marks. Marks are awarded for the whole of the response, based on range and depth of knowledge, answering all (both) areas of the question using good technical language and grammar. Unlike previous examinations, many responses showed some depth of knowledge. However, there were still a large number of very superficial responses from students who were unable to correctly name the different types of stretching that are available. These should have included static, which rely on isometric contractions; active, where the performers range of motion is maintained solely by the agonist being stretched; passive where another limb or object extends the range; dynamic, which is stretching while moving; or ballistic where performers bounce in and out of stretched positions. Many

students were also unable to suggest that using a warm-up, not over-stretching as to cause injury, making stretches sports specific and stretching both agonists and antagonists were the safest way to stretch. Many students detailed specific stretches.

Students' knowledge of the factors requiring consideration before embarking on whole practice was not as obvious as that of warm-up benefits. Many students described as much material as possible from this area of the specification, so we had descriptions of massed/distributed practices, types of guidance, forms of feedback, and every other type of practice. Surprisingly, only a minority of students suggested that whole practice benefited the kinaesthetic interpretations of movements for the performer. In general, responses to these types of questions 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, whether the performer is capable of remaining motivated for the duration of the instruction and whether the performer is fit enough to cope with whole practice.

Many students seemed restricted in their responses because the stem to the question involved a group of AS level PE students. Students may have then made the assumption that such a group of subjects could not possibly be beginners or learners, despite the opening statement in the stem of the question, and therefore failed to use these thoughts in their responses. The use of a group of AS level PE students is the norm for this question. Such a group of subjects can easily be novices in a practical situation question, especially when it comes to the Skill Acquisition component. AS level PE students can easily be taught things that they have never encountered before, or that they have yet to grasp. There was often the assumption that AS level PE students must be elite performers, or at the highest levels of fitness.

At the other end of the spectrum, many students described both the different types of stretching and the factors affecting choosing whole practice in great detail, with close to 20% of the candidature gaining 8 or more marks, and under 10% receiving less than 2 marks, which was a much better response than in previous series.

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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