



General Certificate of Education

Physical Education 1580
PHED1

Report on the Examination

2009 examination – June series

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

PHED1 examines the Opportunities for and the Effects of Leading a Healthy and Active Lifestyle. Seven questions are offered and the candidates are required to answer all questions. Section A contains two structured questions relating to Applied Exercise Physiology, two structured questions relating to Skill Acquisition and two structured questions relating to Opportunities for Participation. Section B has a single unstructured question concerning the application of theoretical knowledge to a practical situation. Each question has a maximum of 12 marks, giving a total mark of 84.

As is usual with examinations within this subject area, the quality of answers and hence the range of marks varied considerably. Some candidates failed to demonstrate more than the most basic of knowledge and gained single figure total marks, while others were able to understand the demands of the questions and answer them extensively, so achieving high marks. Within each question in Section A, a number of topic areas were examined and there was evidence of many candidates being able to only answer certain sub-sections from various questions. The Section B question was in two parts and again evidence showed that many candidates knew more detail about one topic area than the other.

Question One

This question was concerned with the anatomy of the leg, redistribution of blood and the venous return mechanism.

- a) This question was generally well answered by the majority of the candidates. The common errors were candidates naming flexion as the joint action at the hip and suggesting hamstrings as the main agonist at the knee. The examining team gave no credit to those candidates who used non-specific terms such as 'quads' and 'calfs' (sic) or 'calves'.
- b) This question was also quite well answered. The majority of candidates knew how to draw a second class lever system labelled with the correct terms and drew the correct system. There were numerous candidates who attempted to draw anatomical details of the ankle joint but these usually achieved few marks. Again, the examining team did not credit those candidates who used abbreviations rather than the correct terms of 'fulcrum', 'resistance' and 'effort', although the correct alternatives such as 'pivot', 'load' or 'force' were acceptable.
- c) This was not a particularly well answered question by the majority of candidates. Some candidates mentioned the terms vasodilation/vasoconstriction but didn't state where these changes to blood vessel diameter happened. Many candidates confused this concept with the venous return mechanisms and went on to explain this concept quite poorly. Some candidates did discuss how blood needs to be sent to muscles and away from gut, etc but without giving any theory as to how this mechanism was accomplished.
- d) In this question, the majority of candidates correctly identified the action of muscles compressing veins as the main way that the venous return mechanism operates to push blood back towards the heart. There were fewer candidates who identified the pressure changes with the thorax as another mechanism for compressing veins. The role of valves within the veins was also commonly quoted. Note that the simplistic naming of the 'muscle pump', 'respiratory pump', or 'suction pump' did not explain the mechanisms and did not gain credit.

Question Two

This question was about the concepts of fitness and health, balanced diet and fat, and the mechanics of breathing.

- a) i) This was a very well answered question, with the vast majority of the candidature gaining the mark. The only exceptions were where candidates were referring to fitness as being fit for sport, rather than everyday demands.
- ii) By defining health correctly and then suggesting that you can still be fit even though you may be unhealthy, many candidates gained full marks for this question.
- b) i) The majority of candidates correctly described the idea of a balanced diet. The most common mistake with this question was for candidates not to give an 'amount' element in their answer. So answers such as 'all the different types of foods' did not gain credit, whereas, 'all the different types of food in the right amounts' did. Nor was credit given for answers that simply repeated the question: 'a balanced diet is one where all the foods are balanced'.
- ii) Candidates' knowledge of the role of fat in the diet was generally quite sparse beyond the simplistic idea of fat as an energy source. Some candidates gained further marks for the disadvantage that excess fat can lead to obesity or becoming over-weight (becoming 'fat' was not credited). Many candidates also gained credit for identifying that fat energy is 'slow-release' or used during 'aerobic exercise'. The majority saw excessive weight as a disadvantage for speed or agility, rather than for stamina. Knowledge of the role of fat as a vitamin source was sparse, as was detail of the types of diseases linked to excessive fat intake. Generalisations such as 'clogs arteries' or causes 'heart attacks' were not credited.
- c) Very few candidates scored full marks for this question. Many candidates failed to get any marks at all; discussing tidal volume or heart rate. The simplistic concept of netballers needing more oxygen was not worthy of credit but this together with very little theory was the usual answer for many. Those candidates who did score well for this question were able to describe the mechanism for detecting changes in blood chemistry and the role of the medulla as a control centre. Similarly, only a minority of candidates were then able to achieve full marks by naming a muscle involved in breathing and suggesting that breathing rate and depths are affected.

In general, the two Applied Exercise Physiology questions were answered better and rewarded candidates with higher marks than either the Skill Acquisition or the Opportunities for Participation questions.

Question Three

This question concerned skill classification, operant conditioning and transfer of learning.

- a) This was a well answered question by the majority of candidates. Most candidates appreciated the idea of what a closed skill is, though there are still a minority that think that the weather is the over-riding influence on how a skill is performed. Similarly, the idea that the skill was self-paced because of what/who decides timing was achieved by the majority. Credit was gained for those candidates who classified and justified high-board diving as a serial or a discrete skill. Some candidates missed out on the 'Gross' part of the question by not using the term 'large' in describing muscles but stating that the skill involved more or lots of muscles, which is not strictly true and therefore not credited.

- b) This question was not particularly well answered. Only a minority of candidates were able to clearly define operant conditioning as the use of rewards to encourage the repeat of a successful performance. Many candidates mentioned praise but did not link it to the consequence. The concepts of reinforcement, trial and error learning and shaping of the environment were present in many answers but unfortunately rarely in a single answer.
- c) This was a very poorly answered question, with very few candidates grasping the idea that this question concerned transfer of learning. Those candidates who did recognise the concept of transfer seemed unable to clearly identify factors that might ensure that transfer was successful. Where candidates did achieve marks was in talking about the idea of trampolining would speed up practice time, or that trampolining might be a safer environment than the high board.

Question Four

The question tested the candidates' knowledge of the input stage of information processing, perception, psychological refractory period and goal-setting.

- a) i) This question was answered reasonably well. The majority of candidates were able to identify three senses, but a fourth such as kinesthesia or equilibrium defeated all but a small minority.
- ii) In this question, candidates tended to get either full marks or just one. Candidates who could identify the DCR process of perception often went on to explain the stages involved and achieve full marks. Whereas many candidates (often based by centre), showed no knowledge of the process and struggled to gain a mark.
- b) Many candidates were able to correctly identify and explain the psychological refractory period from the scenario described, but there were also many who simply referred to reaction time and the idea of more choices/Hick's Law.
- c) The vast majority of candidates were unable to clearly describe the reasons for the various acronyms used in goal-setting, although the idea of a need for goals to be realistic to maintain motivation was explained by the majority of candidates. The idea of specificity was not clearly explained. Goals need to be specific so that they are personalised to the performer. This is the basis for all goal-setting. No credit was given to candidates who simply stated that goals should be 'specific to their sport' or that 'it's no good setting goals for swimming to a rugby player'. Goals need to be specific to the performer's capabilities, a clearly defined skill within their particular activity and set for the appropriate time in the performer's preparation. Goals need to be time-based so that they can be re-assessed very quickly after being set and a new goal established.

Questions 3 and 4 generally were poorly answered questions, with most candidates scoring marks for skill classification and naming senses, and achieving few other marks.

Question Five

This question was concerned with the aims of the National Curriculum for Physical Education, the characteristics and purposes of military drill and the aims of sports colleges.

- a) Surprisingly few candidates were able to clearly describe the aims of the NCPE, beyond the idea that it tries to improve the health and fitness of pupils. The idea of the learning of various physical, social and creative skills was known only by a minority of candidates, and there was a similar lack of understanding about the development of knowledge, sportsmanship and the 'critical performer'.
- b) This question was well answered by the majority of candidates, and maximum marks were quite common for this question. Many candidates identified many valid points and could have got more than the maximum of 4 marks.
- c) This was a poorly answered question by the majority of candidates. Many students thought that sports colleges were places young talented sports performers go to develop their skills in preparation for the 2012 Olympics. Descriptions of government initiatives/policies/targets were rare, as was the idea of improved staffing/facilities to improve quality of provision. Occasionally candidates did gain credit for describing the role of SSCOs and the school-club links programme or the idea of working with local primary and secondary schools as well as the local community.

Question Six

This question asked candidates to show their knowledge of the three main sectors for facility provision and to explain the growth in women's aerobics, resistance training and yoga in recent years.

- a)
 - i) This was a generally well answered question. Most candidates said that public facilities were run by local government/council and/or available for anybody to use, whereas private facilities were businesses designed to make a profit. However, several candidates let themselves down by suggesting that public facilities were run by (central) government.
 - ii) This was generally a poorly answered question. Most candidates suggested that change in the relationship between the two sectors was due to the credit crunch and therefore people had to use public facilities because of being unable to afford private sector membership fees. Only a minority of candidates mentioned 'best value', and even fewer were then able to develop their answer to actually explain that best value involved the need for accountability and improved efficiency within the public sector and the development of partnerships whereby public sector facilities were run by private companies.
- b) Candidates provided better responses for this question, with many achieving full marks. The idea that the voluntary sector was run by unpaid volunteers was a simplistic answer that gained credit. The idea of membership fees and/or subscriptions for what is essentially a non-profit making enterprise was also worthy of credit. The idea of 'grass roots' provision was also common and credited. Some candidates did suggest that the voluntary sector was there for under privileged areas to get people away from crime etc.
- c) This question was quite well answered. Most candidates gained some credit for ideas about the changing roles of women and society's perception of women. Increased leisure time and disposable income were also common, acceptable responses. There was the usual quota of sexist answers, often along the lines that these activities were not strenuous and therefore suited women.

Question Seven

This question asked candidates to describe methods to improve flexibility and explain the corresponding benefits. The second part of this question required similar information about feedback.

This was a very poorly answered question. Responses clearly showed a lack of detail in the candidates' knowledge and lack of preparation for this specific question.

Only a small minority of students made reference to the different methods of stretching that could be used to improve flexibility. Even then, most candidates were content with simply naming the method and were unable to describe it. The most frequent answer would only suggest that 'flexibility could be improved by stretching'. The idea that stretching could be static or dynamic was common, but again with out explanation. The types of stretching that candidates need to be able to describe and explain are clearly stated on page 6 and again on page 9 of the specification (and it doesn't include dynamic stretching). Even the benefits of improved flexibility were not particularly well explained. The most common benefit provided was 'reducing the risk of injury'; very few sports specific examples beyond the idea that performers could stretch further, were given. Candidates were assigned a level of response depending on the quality of their answer and the majority were marked at level 1 (out of four) for this part of the question.

Part (b) was slightly better in terms of candidates' responses, but still left much to be desired. Many candidates talked solely about positive and negative feedback which realistically is actually reinforcement, but some credit was given for this. Only a minority of candidates discussed intrinsic, extrinsic, terminal or continuous feedback. Knowledge of results and knowledge of performance were sometimes mentioned, but not always clearly explained. Very few candidates mentioned immediate or delayed. Again, the types of feedback required to be understood are clearly described on pages 7 and 9 of the specification. The benefits of feedback were presented by most candidates and were discussed quite well. In particular, the correction of errors and the reinforcing action of feedback were often described correctly. The majority of candidates achieved level 1 or 2 for this part of the question.

Examiners awarded a mark based on the quality of the two responses in terms of range and depth of factual knowledge, coverage of the two topics, use of technical language and quality of written communication.

Mark Ranges and Award of Grades

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