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General Certificate of Education

Physical Education 2580
PHED3

Report on the Examination

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PHED1
Optimising Performance and Evaluating Contemporary Issues within Sport

General
The nature of this paper required students to display both a broad knowledge of a wide range of theoretical topics and more in-depth understanding of several areas within each of the three distinct aspects of applied physiology, sports psychology and socio-cultural influences on sporting excellence.

As this was the first time the paper had been taken by candidates, there were many elementary errors which will hopefully be reduced as staff become more familiar with the procedures ensuring students are correctly prepared. However, it was very pleasing to see that many students had been well prepared, especially for the new extended question, which was assessed using the new banded mark scheme.

Common errors included incorrect labelling of the response in the answer booklet. It should be noted that the appropriate two digit number should be used and that whole questions must be answered, rather than a mixture of sub-sections.

The introduction of the extended questions was intended to differentiate between students and offer a stretch and challenge element to the examination. This aim was definitely achieved, as a full range of marks was evident, clearly allowing those students with an in-depth knowledge to access the higher marking bands. It must be remembered that these questions require students to achieve a percentage of the mark scheme, rather than the one point – one mark criteria applied to the rest of the questions. It is the intention to attempt to create mark-schemes containing approximately 22 – 24 points for these questions. Therefore a 24 point mark-scheme requires students to provide at least 18 points to access the top band of marks, 12 points the second band and so on. This would be a good rule of thumb in the preparation of students. If they are aiming to achieve the top mark they should provide a minimum of 18 points, which would cover all variations in the number of points required for all questions.

Section A

Question One

01 Candidates were required to indentify the correct energy system and explain its process used during a swimming race lasting over two hours. They were then asked to outline the process of glycogen loading.

Many students gained high marks on this question, and it was the strongest of all the compulsory questions. It was evident that many students were able to correctly identify the aerobic system as providing the majority of energy and went on to explain the process in detail, using the correct terminology and sequence of events in the resynthesis of ATP. However, there were a significant number who identified the incorrect system or merely outlined all three energy pathways and were not credited with any marks. Many answers showed excellent in-depth knowledge of the aerobic system.

The glycogen loading aspect of the question was the weaker area. Many answers were too vague, simply making reference to 'taking in extra carbohydrates', or 'pasta parties', with little or no reference to time scales or the need to deplete glycogen stores initially. There were numerous examples of excellent knowledge of the different methods involved and making the distinction between trained and untrained athletes.

It should be noted that the question specifically stated outline. Many students gave excellent answers evaluating the merits and drawbacks of the process but were not credited on this occasion as this was not requested.

Question 2

02 The majority of candidates were able to correctly identify that fast twitch muscle fibres were needed at the start of the swimming race to dive off the blocks. However, the better answers were more specific, naming Type 2b or fast glycotic fibres. Students were often able to identify the characteristics of these fibres producing maximum force in a very quick time, but some lost the marks as their answer referred to the action of the dive needing fast, powerful movements rather than applying it to the contraction of the muscles.

03 The focus of the question required candidates to apply their knowledge of Newton's First and Second Laws of Motion to the swimmer at the start of the race. Whilst there were many high quality answers, many students were able to give excellent definitions of the laws but were unable to access the marks because they were not applied to the specific scenario. There was also a misuse of terminology, for example, 'push' rather than 'apply a force'; 'force produced by the legs' rather than 'muscles contract' and many referred to the distance travelled rather than acceleration. Occasionally candidates confused Newton's Third Law with the First Law**.**

Question 3

04 The question required students to display their understanding of the causes of fatigue. This produced a mixed response, with students either scoring many marks or very few marks. Most were able to refer to the build up of lactic acid, depletion of glycogen stores and dehydration. However, it should be noted that very few students expanded their answers to explain the impact of the identified cause, which could have been a requirement as the command word was explain. Many only listed the causes, which in future may not be sufficient to access the marks.

05 This was the first time the topic of ice baths had been questioned. It was pleasing to see some candidates had been well prepared and understood the principles of the technique to reduce DOMS. Unfortunately there was generally a poor knowledge of the method and many gained marks for the knowing it reduced swelling, but did not explain the principles of vasoconstriction, vasodilation and the return of fresh oxygen to flush out the lactic acid. Large numbers of students thought that the cold caused blood to be sucked out of the area, which then took away the lactic acid. There was no understanding of the role of oxygen in the process. Also, many referred to waste products rather than use the correct technical terms.

Question 4

06 This was a popular question, which produced many excellent answers. However, as in previous physiology questions involving these terms some basic mistakes caused students to loose marks. Most notably the omission of key words in the explanation of the terms VO_2 max and lactate threshold. The former often omitted words such as 'maximum' or 'unit of time/per minute', whilst the latter mainly referred to the 'build up of lactic acid in the muscles' rather than 'in the blood'. Large numbers of candidates were able to explain the relationship between the two terms.

07 Candidate knowledge of periodisation on the whole was very good. Many were able to name and explain the various terms linked to the different phases of a periodised year, giving relevant examples. Marks were most often lost because stages were simply named or the description lacked sufficient detail, for example no time scales were mentioned. Only the better students were able to access the full marks available by either explaining both macro, meso and micro cycles as well as preparation, competition or transition phases.

Section B

Question 5

08 The question required students to explain the concept of social facilitation, its impact on performance and strategies to reduce any negative impact. There was evidence of a full range of marks, but the majority of answers were not as good as the extended question in Section A, with many failing to name Drive Theory or explain others who might impact on performance. Those who did understand the concept scored well, often using the correct technical terminology and applying it succinctly to the given situation.

The strategies to overcome the effects of a crowd allowed students to demonstrate their applied knowledge and it was pleasing to see many were able to provide a wide range of techniques. Many gave in-depth answers naming a range of stress management techniques as well as attribution retraining and varying the preparation prior to an event. However, marks were lost by often being too vague, for example, blocking out the crowd rather than saying improve selective attention.

Question 6

09 Candidates were asked to explain the components of an attitude and give a suitable positive example. Responses varied considerably, ranging from those who gave detailed explanations of the Triadic Model with excellent examples, to those which merely gave very general comments about how a player may be seen to have a positive outlook. The least well known component was the affective element and many students gave examples of negative attitudes, which were not credited.

10 The question focused on the use of attributions following defeat. It was pleasing to see a large number of candidates displaying an excellent knowledge of this area of the specification, often exceeding the marks available on the paper. Many were correctly able to identify the use of specific attributions to maintain motivation and use terms such as self-serving bias and attribution re-training in the correct context. However, answers were not credited if they simply stated external factors or internal factors as this was too vague. Also, many students explained the theory correctly but did not then apply the knowledge as requested, and as a result gained no marks.

Question 7

11 The question explored the relationship between arousal and performance with specific reference to the Catastrophe Theory. There was a surprising lack of understanding concerning this area. Whilst many were able to link optimal arousal to peak performance (few correctly identified this occurred at 'moderate' levels of arousal) and a subsequent decline in performance caused by over-arousal, there was a clear lack of awareness that performers could recover or continue to deteriorate. Many seemed to think this was the Inverted U Theory. Very few were able to link the state of arousal to the different types of anxiety a performer would experience.

12 This section focused on the cognitive stress management techniques a performer could employ to reduce levels of anxiety. The majority of candidates were able to correctly identify cognitive techniques rather than somatic method and most were able to name and explain the basic procedures involved. However, many students failed to give sufficient depth to be awarded the final mark. Those who gave a number of techniques were only credited for the first one that was named. The most common answer was imagery or visualisation with very few mentioning attentional control.

Question 8

13 Most students were able to explain the Profile of Mood States, with many answers being supported by clearly annotated diagrams. Occasionally students lost marks by not using the correct terminology for the ice berg profile and numerous students stated a performer needed high levels of aggression and vigour, which was incorrect. Again some students provided answers that were in excess of the marks available, and whilst this is to be commended, it may hinder their ability to provide sufficiently detailed answers in other sections of the paper due to a lack of time.

14 The question required students to show their understanding of task cohesion and discuss its relevance to success. Very few students accessed the higher marks, and the majority were only credited with an explanation of the term and possibly one other for elaborating on the need for effective communication or understanding their roles. The majority did not mention social cohesion, which was a logical aspect to include in the response and make a comparison between the two.

Section C

Question 9

15 This was the weakest of all the compulsory questions with students producing an average mark of 4.7 out of 14. Many of the answers were well structured referring to performers, the governing body and society. However, there was considerable repetition within the answers, especially when referring to increased funding, participation and support. The command word in the question was discuss, which should have directed students to consider both the positive and negative impacts of this statements. The main reason for the marks being so low was that the majority of candidates only provided the positive side of the discussion. Whilst this fundamental point of examination technique was missed by many in this question it was not evident in question 10 (16) as in this instance many students did approach the discussion from both perspectives.

Question 10

16 The question focused on the impact of technology on the sporting contest from the perspective of officials. The responses varied from excellent to merely explaining the types of technology now used, such as Hawk-eye and video replays, rather than discussing their impact. Large numbers of candidates gave their personal opinion and many made reference to the use of goal line technology in football and what the authorities should be doing, all of which was irrelevant in this instance. Some students also structured their answer based on past mark schemes, which looked at the impact of technology on spectators. It must be remembered that whilst past mark schemes are invaluable for preparation, students must be encouraged to highlight the specific requirements of the current question carefully.

Question 11

17 The question explored the candidate's knowledge of the structures to support the development of elite athletes, in this case the World Class Performance Pathway. Students either achieved good marks or no marks. Many answers named the stages and expanded to describe the type of athlete involved or the time scales of development. However, there were large numbers who outlined the performance pyramid or simply gave vague answers attempting to outline the role of UK Sport.

18 As with the previous question, students either knew the role of National Institutes of Sport or gave answers that were too vague to credit with marks. This has been a common question in recent years and students should by now be familiar with the support structures provided by such organisations. Simply stating sports science or sports medicine is not sufficient to gain marks. Answers must be much more specific indicating the type of service offered. Another common mistake concerned the misconception that National Institutes distributed funding.

Question 12

19 The final question focussed on the historical development of sport and the changing provision for the working classes. It was pleasing to see many good quality answers, covering all points on the mark scheme. Students lost marks if their answers were too vague, for example, stating more time and more money available, rather than explain how the situation had improved and the causes of the changes. Another common mistake was the time scale with numerous candidates basing their response in the present rather than the in the 19th century.

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.