A-LEVEL
PHYSICAL EDUCATION

7582/2: Factors affecting optimal performance in physical activity and sport
Report on the Examination

7582
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General comments

The mean mark for this paper was approximately 46 out of 105. There were a very small number of items unanswered and students did not appear to run out of time. This was evidenced by the last section in the paper, Sport and society and technology in sport, having the highest mean mark of the three sections on the paper. Section A, Exercise physiology and biomechanics, had the lowest mean mark.

The multiple choice questions (MCQ) were generally well answered, with 4 of the 6 MCQs being correctly answered by over 90% of students. Question 14 was the least well-answered MCQ with over half of the students identifying UK Sport as the organisation responsible for creating the World Class Performance Programme.

The extended response questions continued to show good knowledge of the topics but, in a significant number of responses, a lack of Assessment Objective 3 (AO3) skills in terms of analysis or evaluation meant that many students failed to achieve top band marks. In some cases, there was also a lack of application to relevant topics. For example, in question 06 many students failed to apply their knowledge of strength training to injury prevention. The mean marks for the extended response questions were between 3 – 4 for the 8-mark questions and 5 – 6.5 for the 15-mark questions. It is important that schools and college continue to prioritise preparation for these questions, particularly as they account for 69 of the 105 marks on this paper. Mark schemes now provide more possible indicative content for these questions, so the use of these to help identify what is required for AO3 should prove useful to schools and colleges. However, it is important to be aware that mark schemes only identify some of the possible content that students may obtain credit for and that there are always other points that can be accepted.

In the short answer questions, students appeared to understand most command words. However, there were some exceptions, such as ‘discuss’ in question 17.2 where a significant number of students only presented the positive aspects of the role of technology for the coach and failed to identify any negatives. This meant that students were only able to obtain a maximum mark of 3 out of 4. In addition, for some of the explain questions, such as question 10.2, students were listing their answers without developing their points into an explanation.

Section A - Exercise physiology and biomechanics

Questions 01 and 02

Question 01 was extremely well answered by students with 95% correctly identifying that the runner took 1 minute and 20 seconds to complete 400 m. This is encouraging given that this is the first calculation question that has been set on Paper 2.

In question 02, 85% of students were able to identify the exercise-related function of sodium as ‘helps regulate body fluid levels’. The most common incorrect answer was ‘needed for the formation of haemoglobin’.

Question 03

Around 68% of students achieved the maximum mark of 2 for this question. Many students were able to identify that subjective data was an opinion or interpretation, with questionnaires given as the most popular way that it could be collected. A small number of students achieved no marks for this question and this tended to be because they confused subjective and objective data.

Question 04.1

Only a very small proportion of students obtained the maximum of two marks for this question. This was for two main reasons. Firstly, and in most cases, students failed to identify the correct units of measurement. Many students suggested 'newtons **per** second' rather than 'newton seconds' or 'n/s' rather than 'ns'. This is something that perhaps needs to be highlighted to students for future series. In some student's answers they failed to identify this as a biomechanics related topic and were referring to the cardiac impulse or nervous transmissions in their definitions.

Question 04.2

Only around 23% of students achieved a maximum of 3 marks for this question. This tended to be because students failed to label their axes correctly. They were required to indicate both force and time, with the correct units for one mark. The shape within the graph tended to be accurate and students were able to obtain 2 marks for this. There were a small number of students who failed to draw a graph at all, and therefore were awarded 0 marks. Students need to be reminded of the importance of drawing accurate and well-labelled graphs, which includes appropriate units.

Question 05

Most students were able to access some marks for this question with the mean mark being 1.54 out of 3. It was pleasing to see that many students realised that in the specification, screening is identified under injury prevention and rehabilitation and this was the main focus for many student responses. Students were able to identify the purpose of screening as being to identify current/past/previous injuries and to identify conditions such as CRY. However, students found it more difficult to obtain a third mark for more specific purposes of screening, such as testing muscle imbalances or assessing joint mobility.

Question 06

This question was the least well-answered 8-mark question on the paper. This was largely because students were unable to identify specific methods of strength training. Additionally, many students failed to relate their answers to injury prevention, purely discussing strength training as a method of training from a general perspective and not as a method of injury rehabilitation. As a result of being unable to identify specific strength training methods, such as free weights and resistance bands, it was therefore difficult for students to obtain the AO3 evaluation marks. Students must ensure that they read the question carefully and apply their knowledge to the correct topic, in this case injury rehabilitation. Also they must make use of any pictures provided in question papers as this could have directed their answer to a specific method (resistance bands) which could have helped their evaluation.

Those students who did well at this question were able to identify the various methods available and discuss how the methods would be used in sequence, from which method to use at the start of injury and how, as the injury recovered, the athlete would progress through the different methods.

Question 07

This question was the least well-answered of the 15-mark questions on the paper with a mean mark of approximately 4.95. On the whole, students were able to identify the main factors affecting the horizontal displacement of the shot put. However, there was little application of these factors and the analysis of how an athlete can maximise horizontal displacement was, at times, weak.

Many students only addressed the three factors affecting the flight path of the shot put of height, angle and speed of release. Additionally, some students incorrectly discussed the impact of air resistance on the shot put. The use of biomechanical language was often lacking in this question. In terms of the analysis, students were often list-like in their answers, failing to find the depth required for a thorough analysis.

Section B – Sports psychology

Questions 08 and 09

Questions 08 and 09 were the best answered MCQs on the paper.

Question 08 was well answered with around 93% of students correctly identifying competitive state anxiety as 'a nervous response to a specific situation'.

Question 09 was the best answered MCQ on the paper with around 98% of students correctly identifying praise as the example of an intangible reward.

Question 10.1

This was a well-answered question by most students, who were able to identify that for a cognitive performer an audience was likely to lead to social inhibition. Many students made good use of Zajonc's model and discussed impact of the increase in arousal on a performer's dominant response and how this relates to a cognitive performer. Some students were given credit for evaluation apprehension but only if this was explained. Listed terms were not given credit in this answer because this question was an explain question.

Question 10.2

Over 60% of students achieved 2 or more marks for this 4-mark question. The most commonly awarded marks were for familiarising a performer with an audience so that they are used to the presence of an audience in a competitive situation and also improving selective attention, so the performer is trained to block out the audience and focus on the task. Those who did not perform well on this question did so because they listed the strategies and failed to explain them. It was important that students did not explain what their strategies were but how they could be used by a coach to reduce the negative effects of an audience. Where students didn't achieve highly for this question it tended to be because the links that students made to the audience were weak or non-existent. Some students focused on one point only, expanding on their point in great detail but only able to score 1 mark for this question.

Question 11.1

This question was answered well with around 67% of students obtaining the mark. Where students scored 0, it tended to be because they described outcome goals as goals focused on the outcome. Students should be encouraged to find alternative words to describe key terms. Some students simply gave an example of an outcome goal, which didn't constitute enough for the description mark.

Question 11.2

A large proportion of students achieved 1 mark for this question but only a very small minority obtained both marks. This tended to be because many students referred to the impact outcome goals had on motivation, not on confidence. Of those students who did focus on confidence, a significant number only focused on the positive impact of an outcome goal rather than the idea that other goals, such as process goals, would be better for enhancing confidence as they don't involve comparison to other people's performance.

Question 12

This question was generally well answered with a mean mark of 3.64 out of 8. Most students had knowledge of Weiner's model and were able to apply this to Crystal Palace's 7 defeats, suggesting valid reasons and examples of attributions for their losses. More students accessed the top band for this question than for any of the other 8-mark questions. However, the predominant reason for students not achieving a top band mark was for the lack of analysis of the effect of the attributions on the performance of the players. Whilst some students were able to identify psychological effects, such as learned helplessness, fewer added analysis of how it could have affected the performance of the players themselves. Encouraging the students to answer all aspects of the question, and checking back at the end of an extended response question to see that all aspects of the question have been addressed in their answer is essential.

Question 13

This was a synoptic question where students were required to evaluate two statements. One statement was made by a rugby coach about the most important reason for a warm-up being injury prevention and the other by a golf coach, who suggested the main reason for a warm-up was stress management. AO3 marks were generally well accessed in this question. Many students were able to justify the statements well in relation to the relative sport. Those students who answered the question well also provided an alternative argument to the statements suggesting, with explanations, why injury prevention and stress management aspects of a warm-up are important for both rugby and golf. When asked to evaluate statements or arguments, students should be encouraged to make judgements that are positive and negative where possible. There were a small number of students who failed to relate to either rugby or golf and simply discussed the importance of a warm-up for stress management and injury prevention. Clearly, these students lost out on AO2 and AO3 marks.

Section C – Sport and society and technology in sport

Questions 14 and 15

Question 14 was the least well-answered MCQ on the paper with over half of the students correctly answering that UK Sport was the organisation responsible for creating the World Class Performance Programme. This was a straightforward knowledge-based question and demonstrated that some students required more understanding of this topic. All other possible answers were chosen, with students most commonly incorrectly identifying Sport England or National Governing Bodies.

Students demonstrated a high degree of knowledge of beta blockers with 90% correctly identifying that a golfer would benefit most from taking these performance enhancing drugs.

Question 16

Despite this being a knowledge-based AO1 question, almost a third of students achieved 0 marks. In a lot of cases, this was due to students failing to understand what was meant by sports legislation. Alternatively, some students gave vague answers, such as 'keeping the game fair' or 'making rules for the sport' without giving specific incidents that would involve the law. In addition, students need to be reminded that when identifying a particular number of factors within their answers, each point they make must be distinctly different. For example, some students identified that the law provides protection from contracts with clubs and made a separate point that was related to protection from contracts with sponsors. These two points both relate to contract disputes/protection and were therefore too similar to gain a mark for each. The most commonly awarded marks were for legislation in relation to violence from other players, violence from spectators and contract issues.

Question 17.1

For this question, students were asked to identify two forms of technology that a coach could use for sports analytics. This was an extremely well-answered question with over 90% of students achieving 1 mark and more than half achieving the full 2 marks. Most commonly awarded answers were for GPS tracking and heart rate monitors. Some students lost out on marks for including technology that was not directly related to sports analytics and others for giving specific examples of technology, such as dartfish, as opposed to the form of technology, performance analysis.

Question 17.2

Almost half of all students achieved 2 or more marks for this 4-mark question. However, only just over 2% achieved the maximum 4 marks. This was a 'discuss' question but very few students identified the negative role of technology for a coach in the analysis of team games. Most students focused on the positive role and therefore were only able to achieve a maximum of 3 marks. Students must be reminded that when faced with a discuss question, they must present both sides, positive and negative. As with question 10.2, some students spent too long explaining the same point. This was a 4 mark question and students need to be aware that this would require them to say four different roles. Explaining one role in lots of detail will not enable a student to obtain maximum marks.

Question 18

This final 8-mark question had the highest mean mark of all the 8-mark questions with just over half of the students achieving band 2 and around 28% achieving band 3. Most students were aware of the difference between the characteristics of recreation and sport and, in the main, were able to apply these to Amy's experiences of badminton. To achieve AO2 marks, students need to specifically relate to badminton, such as giving examples of adapted rules for recreation, for example playing half court, only playing matches to 7 points or allowing serves to be retaken. Some students were able to compare the two concepts in relation to the impact each one would have on Amy's performance. However, again there is clear room for students to be more specific about exactly how her performance would be impacted in relation to badminton, such as a lack of concentration in recreation could lead to more serves hitting the net. This is another example of an extended response question where students didn't always address all aspects of the question, with some students only identifying the differences in the two experiences Amy had without explaining the impact that this had on her performance.

Question 19

This was clearly the most well-answered 15-mark question on the paper. The mean mark achieved was approximately 6.54 and just over a third of all students achieved a mark for a band 3 response. Students were able to identify social, physiological and psychological reasons for an athlete taking drugs and were able to relate these to specific sports and sporting examples. Of the three reasons, students were more knowledgeable on the physiological reasons and demonstrated a good understanding of the benefits of anabolic steroids, beta blockers and EPO. The short and long term implications were identified by a large number of students, although the depth of analysis on these areas was sometimes lacking. At times, the less effective responses to this question were quite list-like.

Use of statistics

Statistics used in this report may be taken from incomplete processing data. However, this data still gives a true account on how students have performed for each question.

Mark Ranges and Award of Grades

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