



GCSE

Physical Education

8582/1 The human body and movement in physical activity and sport

Report on the examination

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GENERAL COMMENTS

Students attempted most of the questions, and there were no significant un-attempted responses. There was no evidence that students did not have sufficient time to complete the examination. However, some students still appeared to struggle to interpret some of the key command words used in this year's questions, therefore not hitting the correct assessment objectives in their responses. This was particularly true in questions 22 and 23.3 which required the students to justify. On too many occasions the students merely stated a response where an explanation was required. This is a key area that centres need to continue to work on as it can have a significant impact on marks for the AO2 and AO3 question

QUESTION 1-5

Overall, the MCQ's were answered well. Questions 1 and 4 were the best answered by students with over 90% getting the correct response.

QUESTION 6

A large majority of students correctly identified all three bones correctly. Where students did not score full marks, it was generally because they labelled the cranium as 'skull' which was not creditworthy. This is consistent with previous mark schemes. Some referred to hip bone which again was not credited. Least well identified was femur with fibula and tibia used instead.

QUESTION 7

This was very well answered by most students mainly due to the wide range of muscles that were available to them on the mark scheme. The most common responses were deltoid, bicep, triceps or rotator cuffs. Some students only used abbreviations such as traps, lats or pecs which were not creditworthy. Very few did not attempt this question.

QUESTION 8

Most students gained the mark for identifying that the agonist was the muscle that contracts or the muscle that contracts to create movement. Where students just identified the role of the agonist as the 'prime mover', no marks were awarded since 'prime mover' is simply another way of saying agonist.

QUESTION 9.1

The majority of students correctly identified the movement was extension. Some students gave the opposite of flexion and a few identified the joint type rather than the movement that was happening.

QUESTION 9.2

As in previous years, this question had a varied response. A minority of students correctly identified that it was a concentric muscle contraction. The most popular incorrect answer was eccentric. Some students identified a movement rather than a contraction and some identified a muscle.

QUESTION 10.1

Students were able in most cases to label the three structures. There was some confusion between bronchi and bronchioles for structure B.

QUESTION 10.2

Most students correctly identified that gaseous exchange was the process taking place in structure C. A few students used the term diffusion which was also creditworthy.

QUESTION 11

A poorly answered question. Students struggled to define expiratory reserve volume with many identifying it as the volume of air left in the lungs after a maximal exhalation, which is residual volume. Where they were unable to define ERV, it led to them being unable to correctly identify what happens to it during exercise, with many students saying that it remained the same. Some students accessed one mark by saying the volume decreased.

QUESTION 12

The majority of students used the cranium as their example of a flat bone and correctly identified that it protected the brain. The most common example was heading in football or taking a punch to the head in boxing. Other bones identified were the ribs or sternum which were protecting the lungs and heart during a rugby tackle or being punched in the body in boxing.

QUESTION 13.1

Students correctly defined reaction time as the time it takes to respond to a stimulus. The most common example used was reacting to the starting gun in a 100m sprint. There were some students who used examples that were not qualified enough such as a goalkeeper in football making a save or taking a catch in cricket. Students needed to use examples that showed more explicitly where reaction time was needed, for example 'saving a penalty in football' or 'catching a ball in the slips in cricket'.

QUESTION 13.2

Students were able to define agility as changing direction at speed. However, some students

only gave the definition of speed or just said changing direction neither of which were credit worthy. A good range of examples were given. Some students did not qualify the dribbling in football or basketball. To achieve the mark for the sporting example, the candidate needed to be clearer about where agility takes place when dribbling in basketball, for example 'dribbling around a defender in basketball'.

QUESTION 14.1

Most common responses were subject starts laying down, weave in and out of cones, run as fast as possible and time measured. A few students drew a diagram and labelled it 10m x 5m so were credited with a mark. Some students described the Multistage Fitness Test and the T Test and no marks were awarded for the description of these tests.

QUESTION 14.2

Most students were able to access some marks for this question with a few students accessing full marks. Most responses were restricted to why the Illinois Agility Test was not a suitable test for a 100m sprinter. The most common responses were that the test does not require the performer to run in a straight line and the test needs them to change direction. Higher scoring students were able to breakdown the test and acknowledge that there is an element of reaction time and acceleration, both of which would be important to a 100m sprinter. Students did suggest more suitable tests such as the 30m sprint test for speed, or the ruler drop for reaction time. These responses were only credited if the response was applied to the 100m, for example to assist with a fast start.

QUESTION 15

The majority of students identified the knee as a hinge joint.

QUESTION 16

Most students correctly identified a ball and socket joint as the type of joint where rotation can take place. Some students said a synovial joint which was not creditworthy.

QUESTION 17

This question was generally answered well with the most common responses being to remove/reduce lactic acid and to prevent DOMs. Where students wrote 'reduces breathing rate/heart rate/temperature' it should be noted that marks could not be awarded as there needed to be some reference to the fact that a cool down does these things 'slowly' or 'gradually'. 'Decreasing the risk of injury' was another common response that could not be credited.

QUESTION 18

The most common response given were 'by wearing studded football boots as these prevented a player from slipping over' and 'athletes wearing cushioned shoes to absorb shock and prevent injury'. Many students, although they explained how the footwear reduced the chances of injury, did not identify a sporting example which meant they gained zero marks.

QUESTION 19

Students did not score well for this question, with many receiving zero marks due to them not reading the stem of the question carefully. The stem referred to the weightlifter 'holding a weight above their head' and not to the phase where the weight was lifted from the floor to the position above their head. To answer the question correctly, students had to identify the type of strength as 'static'. If students identified any other type of strength, and many of them identified maximal and explosive strength, no marks could be awarded. If students identified static strength correctly, most of them went on to justify their selection correctly and accrue the further two marks.

QUESTION 20

Students showed limited ability to define DOMS correctly and many said that it occurs straight after exercise. To obtain the mark for the definition, students had to refer, in some way, to the fact that the pain from DOMS is delayed and does not occur straight after exercise. However, many students then went on to achieve marks for explaining how massage could reduce the effect of DOMS. Most common responses were the removal of lactic acid, increase in blood flow to the muscles, alleviate pain and allow the muscles to relax.

QUESTION 21

Most students were able to identify frontal plane and sagittal axis correctly. However, some students did confuse the plane and axis and got them the wrong way round.

QUESTION 22

When a student was able to correctly identify that the 100m was an anaerobic event they also gained marks for saying it was a short duration event at high intensity. Higher scoring students gained the fourth mark by explaining or giving the equation for anaerobic respiration.

QUESTION 23.1 & 23.2

Many students identified the lever system operating at the ankle correctly as a second-class lever. They also were able to draw a labelled diagram showing the load in the middle position. Marks were sometimes lost by students drawing the effort arrow pointing down, rather than up and this prevented them from getting the third mark for this question. Where students identified the lever system incorrectly in 23.1, they were unable to access any marks in 23.2.

QUESTION 23.3

Students were not consistently able to define balance correctly by saying it is the ability to maintain the body's centre of mass above the base of support. Even if the definition was incorrect students did gain marks for the justification by saying that without balance, they could fall or wobble from the apparatus. Many gained a further mark for stating that they would gain increased performance scores from the judges.

QUESTION 24.1

This was generally very well answered with most students able to read the table accurately and correctly identify that George had a good level of muscular endurance and Lisa had an average level of muscular endurance. Some students could not get both and identified Lisa incorrectly as below average muscular endurance.

QUESTION 24.2

This was answered well with most students knowing that quantitative data involved numbers and numerical data.

QUESTION 25

This question had a broad range of responses. Where students answered this well, it was clear that they knew and understood the key technical terminology and processes associated with the redistribution of blood. Top scoring students were able to talk about the redistribution of blood away from the non-vital organs and towards the working muscles, using vasoconstriction and vasodilation. They then went on to say the impact that this increased blood flow had on performance in a 30-mile cycle.

Lower scoring students simply referred to the fact that during exercise, blood is pumped to the working muscles. They were unable to use technical language around vasodilation and vasoconstriction, nor refer to where blood was being redirected away from (the digestive system for example). Where students wrote in this way, it was difficult for them to access level 3 marks as they lacked the key technical knowledge and focus to get to the heart of the question. Students were given credit for analysing the impact that the increased blood flow had on performance, but this often lacked the depth needed to access the higher marks.

QUESTION 26

Some students failed to read the question properly and their responses mimicked questions from previous years where they were required to evaluate the appropriateness of a named type of training in relation to a particular activity. Where they answered in this way, students' responses contained irrelevant information that could not be credited. This included other training types and fitness tests that might have been more appropriate for a marathon runner and principles of training and progressive overload.

Level 1 responses were limited to very basic descriptions of what continuous training was. Terminology used was basic and no real evaluation of how the training could improve a marathon runners' performance.

Where students had read the question correctly and were able to identify the long-term effects of exercise and apply them to a marathon runner, they were able to access high marks. Many students identified increased cardiovascular and muscular endurance, muscular and cardiac hypertrophy, bradycardia and weight loss as key factors that would improve the performance of a marathon runner. Students then wrote in varying depths about how these factors could improve the performance in a marathon with many students being able to explain how these factors enabled the marathon runner to run faster for longer or without fatigue.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results Statistics](#) page of the AQA Website.