



GCSE

PHYSICAL EDUCATION

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

Report on the Examination

8582
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GENERAL COMMENTS

This was the first paper in which a whole cohort of students have been examined since the Covid pandemic. It was very fair paper with all questions being accessible to the vast majority of students, this was evidenced with a higher mean mark than in previous years. It was apparent that the advance information from AQA had been extremely useful and that teachers had used it effectively.

Some students appeared to struggle to interpret the key command words used in the questions, therefore not hitting the correct assessment objective in their responses. The lack of interpretation may be because students lacked the experience of examinations and therefore did not have the examination technique to accurately pinpoint the desired level of response.

There was no evidence that students did not have sufficient time to complete the examination.

QUESTIONS 1-5

Questions 1, 2 and 3 were answered particularly well. Students found question 5 more challenging.

QUESTION 6.1

This was a well-answered question with the vast majority referencing “a period of time” or “avoiding fatigue/tiredness” in their definitions.

Long distance running, cycling, rowing, sit-ups and biceps curls were common examples that were credited with a mark. Incorrect responses typically indicated that students could not distinguish between muscular endurance and cardio-vascular endurance, in addition, examples of strength and were also often wrongly stated.

QUESTION 6.2

Many of the candidates’ responses to this question were not related to the requirement of the question to “justify.” This was reflected by a high percentage of responses being at the AO1 (defining) and AO2 (examples showing when muscular endurance is evident/time) levels, and extremely few at AO3 (showing the impact).

The better responses related to how good muscular endurance would impact on performance, such as “games last a long time,” by “helping to delay fatigue” and “players being able to maintain a high level of skill for longer.”

Common mistakes were that students repeated their definition of Q6.1 and referred to non-team games, such as marathon running, gymnastics and swimming.

QUESTION 7.1

Most students attempted this question and successfully identified the Tidal Volume and Inspiratory Reserve volume.

Most of the incorrect responses, were in identifying the “inspiratory” section, or failing to give the full name and using the abbreviation “IRV.”

Some students transposed the two answers A and B, and therefore were both incorrect, so gained no marks.

QUESTION 7.2

Most students gave the correct response, showing understanding that the graph represented an increased lung volume. Many students used a different word implying an increase and were credited for this.

QUESTION 7.3

Most students gained 1 mark for this question. The overriding reason for not gaining the second mark being that students stated that breathing rate would increase (fast/speed), rather than depth of breathing. Students should be taught that it is oxygen, (rather than air), which is entering the lungs and is needed to sustain exercise. Few students made mention of the removal of carbon dioxide.

QUESTION 7.4

The definition was mostly stated correctly, as the intake of air, however, very few mentioned “into the lungs.”

Describing how inhalation takes place was well-attempted, although many answers lacked a logical sequencing of the process. It was encouraging that a large number of students gained 3 or 4 marks.

Many students referred to the dome shape of the diaphragm, but not the contraction, downward movement, and flattening.

Some answered seemed confused over whether the intercostal muscles contract or relax at this stage of inhalation. A few students also referred to external/internal intercostal muscles but did not seem sure how these two sets of muscles related correctly to inhalation.

Students that identified the intercostal muscles contracting, seemed to follow up with “making the rib cage to move up and out.” Little reference was made to the movement of air from high to low pressure and its significance to this process.

QUESTION 8.1

Most students gained a mark for correctly answering isometric contraction. “Isotonic” was a popular response which was incorrect.

QUESTION 8.2

Students mostly gained a mark by stating that there was no movement. However, students would be better prepared/informed if they also understood that in an isometric contraction, the muscle length stays the same.

QUESTION 9.1

Most students gained 1 mark for this question, with a high percentage answering gastrocnemius.

The second response that gained the students a mark was when they correctly identified the tibialis anterior. However, those who stated only tibialis were not awarded a mark. Likewise, many incorrectly suffixed tibialis with exterior/interior.

Soleus was rarely mentioned.

QUESTION 9.2

This was a well-answered question with the majority of students recognising two of the bones found at the elbow. "Humerus," was the most common response of the three possible answers. The most common incorrect responses stated fibula/tibia, the long bones in the leg.

QUESTION 9.3

This question was answered very well.

QUESTION 9.4

Most students gained at least two out of the possible three marks. Students seemed to mainly identify synovial fluid and synovial membrane, with ligaments or cartilage being the third most stated structures. The bursae was mentioned, but the joint capsule rarely stated.

The most common incorrect response was "tendon," and students' misunderstanding of the question, giving responses referring to the function of a synovial joint.

QUESTION 10.1

Students demonstrated a good understanding of this question and gained high marks.

The main issue preventing students gaining full marks, was probably the repetition of the same point, for example identifying strengths and weakness as two responses, to see what Michael needs to work on next, and identifying separate components of fitness for each reason/response.

The most common incorrect responses related to reducing the risk of injury or using 'SMART' targets as to why testing was carried out.

QUESTION 10.2

Students mostly answered this question very well, with very few failing to identify any long-term effect.

The most common reason that students failed to score full marks on this question, was they identified the short effects after exercise (DOMS, nausea and fainting). A high number of students also stated "better mental health and/or social well-being."

QUESTION 10.3

This was possibly the least well-answered question on the paper.

Most students were able to identify and describe what each letter of the FITT acronym represented by stating it in their response. However, as the command word within the question required the students to explain how this would be applied, many failed to do this, and were unable to gain marks.

Many students simply said 'increase frequency, intensity and time' without demonstrating how they would increase or apply them.

QUESTION 10.4

This question was answered very well with most students achieving full marks for stretches and pulse-raiser. A good number also stated mental preparation and specific or technical training.

QUESTION 10.5

A lot of students described the type of activities, eg, jogging, hamstring stretches or side stretches and which muscles/joints were being 'warmed up', which did not fulfil the AO3 criteria.

Students needed to explain what the benefits would be in completing a warm-up, eg, preventing injury by increasing elasticity in the muscles or gradually increasing blood flow to working muscles, this would allow the students to be awarded marks at AO3. Many simply stated their answers rather than explaining them, however, plausible responses were credited.

The best responses related to preventing injury.

QUESTION 11.1

This question was poorly answered. Circumduction was introduced onto the specification in 2019 but it seemed as though many centres had not taught it.

Students gained marks for circular motion, but most referred to rotation instead of circumduction.

Students often gained a mark for the sporting example rather than the definition. Most common responses were cricket bowling and front/back crawl swimming. This was possibly as they linked the movement to both circumduction and rotation and recognised that the that the action "went round."

QUESTION 11.2

This was a very well-answered question.

QUESTION 12.1

Another well-answered question with the majority of students identifying "to prevent the back flow of blood."

QUESTION 12.2

This was not as well-answered as the previous question.

Most students identified the small lumen/thick wall (AO1) but failed to link it to its function (AO2). The function of the thick walls was well-explained but fewer students gained a mark for the function of the small lumen.

QUESTION 13.1

Most students identified extension as the correct response.

QUESTION 13.2

This was less well-answered, although most students correctly identified that the agonist was the quadriceps. The most common incorrect answer was unsurprisingly, the hamstrings.

QUESTION 13.3

As in previous years, this proved a difficult question. This most popular response was “eccentric” which was incorrect.

QUESTION 14

This question was answered much better than on previous papers which is encouraging.

QUESTION 15.1

The majority of students correctly identified the action as a first-class lever.

QUESTION 15.2

Most students that identified the first-class lever in Q15.1 did draw a first-class lever for 15.2. The positioning of the fulcrum and load were mostly correct, but the direction arrow of the effort was where students failed to gain full marks. Most labelled the diagram correctly.

QUESTION 16

Overall, most students gained level 2, 3 or 4 marks.

The understanding of both speed and flexibility was evident, with most students being able to give a simple definition of these components of fitness, they were then able to provide examples of where these may be needed by a footballer. Better students gave a range of examples and consequently gained higher marks. Speed was answered in more detail than flexibility.

Most students were able to identify the relative times and situations in the game of football that speed was used and give some reason why having speed would be an advantage to both the player and team success, therefore ‘justifying’ (AO3) the importance of speed. However, the students were not so clear on the benefits of flexibility. Students did not always think it important, except for a goalkeeper when stretching to make a save. Those that were better informed, related

examples to preventing injury when stretching for the ball in a tackle or being able to strike the ball with my power.

Many 'discussed' the question, giving the alternative components of fitness that would benefit a footballer more. Some also linked fitness tests to speed and agility. These were not credited as they did not answer the question posed.

QUESTION 17

Although this question was attempted by most students, it was not answered particularly well. The mean mark was in line with previous papers.

Most students did understand and state the meaning of aerobic and anaerobic exercise, as well as interval training at AO1 level, therefore, allowing them to access marks at level one. This was dominated by the simplest of explanations, for aerobic being with oxygen, anaerobic without oxygen and interval training a method that was characterised by periods of work and rest.

There was a high percentage of students who went further to apply their knowledge at AO2 level, indicating that they understood when a performer would be working in both the aerobic and anaerobic zone during a team game, giving specific examples of this type of exercise occurring within the game situation. There were some students that also indicated that due to a game having both aerobic and anaerobic work, interval training could be a suitable method of training, due to its work/rest nature.

Students at this point started to struggle to analyse how interval training could be used to improve performance (AO3).

The idea that by either having long (jogging) work periods between the rest periods would develop aerobic capacity or short (sprint) work periods for developing anaerobic capacity seemed to be how the students understood how interval training worked and could be undertaken to help facilitate improvements in performance during those phases of the game that required the use of aerobic and anaerobic activity. It was common to read that there would be two separate training sessions, one devoted to aerobic improvement and another session developing anaerobic capacity.

What was not apparent in students' responses was the significance of the intensity and need to be working within training zones (the importance of maintaining a certain heart rate), particularly relating to the 'rest' period. Most students seemed to think or indicate that the 'rest period' was literally not exercising.

Many students didn't use a team game in their answer and it appeared that some students were isolating assessment objectives rather than taking a holistic approach.

Mark Ranges and Award of Grades

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