OXFORD AQA
INTERNATIONAL QUALIFICATIONS

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International AS and A-level

Physics (9630)
PH01 Physics
Report on the Examination

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REPORT ON THE EXAMINATION: INTERNATIONAL – JANUARY 2026

QUESTION A1

Generally completed well with over 50% gaining both marks. As the command word in this question was *determine* students to get full marks, they needed to show how they arrived at their answer. Several students did not do this and therefore could not access the first marking point.

QUESTION A2.1

A very straight forward question with almost 90% of students gaining a mark.

QUESTION A2.2

Over 90% of students were able to access marks on this very accessible question.

QUESTION A3

Students generally found this question to be accessible with three quarters of students getting at least one mark. The main mistakes were giving the wrong neutrino or a positron instead of an electron.

QUESTION A4

The command word in this question was *deduce.* Students are therefore expected to show full working and a conclusion. Full working should include at a subject for all of their equations. Just under half the students managed to get all three marks.

QUESTION A5

In general, this question was not answered well. Less than half of students were awarded 3 or more marks. Just over 10% of candidates did not attempt the question despite its similarity to previous questions on the Rutherford experiment. Many students did not follow the first bullet point asking them to draw the apparatus, either leaving it blank or drawing the paths of alpha particles close to a nucleus. The second bullet point was generally answered well. For the third bullet point, students often included statements about what was deduced from the experiment without any explanation as required.

QUESTION A6.1

There were many excellent answers to this question. With just under half of all students gaining 2 of the 3 marks. As is often the case with sketches some students do not use rulers for straight lines meaning their answers lack the precision needed for a paper at this level.

QUESTION A6.2

This question was generally well done however early rounding was an issue for many students. Rounding in calculations should only be done at the end to avoid compounding errors. Many students rounded at each step causing their final answers to be incorrect.

QUESTION A6.3

Students should be explain this in terms of the resultant of horizontal and vertical components however many did not fully explain this. However, around 85% of students were able to access at least one of the two marks for this question.

QUESTION A6.4

Around two thirds of students answered this question correctly.

QUESTION A7.1

Many students did not realise that they had to use conservation of momentum as well as conservation of energy. Many simply converted the kinetic energy of the arrow into the gravitational potential of the target and arrow, without considering the energy losses associated with an inelastic collision. This question as a whole was one of the most challenging on the paper. The mean mark on this question was 1 out of 3.

QUESTION A7.2

This question proved very challenging. Candidates often did not link their ideas back to the conservation of momentum, with many attempting just to consider the transfer of kinetic energy from the arrow to the target. Those students who appreciated that this was a question about momentum, were able to answer it well.

QUESTION A7.3

There were three routes to answering this question. Most candidates used Newton's second law and suvat. Only a minority used conservation of energy or the momentum form of Newton's second law. Either a positive or negative value of force was acceptable as the final answer. Just under two thirds of students were awarded all 3 marks.

QUESTION A8.1

Students who attempted this question generally did it well. The diagrams were overall quite poor, but the descriptions of the experiment allowed them to gain full marks. Around two thirds of students gained at least 2 of the 3 marks.

QUESTION A8.2

This should have been one of the most accessible questions on the paper however students were imprecise with their statements in one or both cases meaning that no marks could be awarded. A proportion of students suggested unreasonable precautions such a "lead suits."

QUESTION A8.3

This question was challenging to many students. Less than a quarter of students gained two or more marks. This was mostly down explanations lacking detail or simple statements with limited information answering the question.

QUESTION A8.4

Many students simply stated the correct answer. The command word *determine*, and the instruction to use figure 6 required some indication of how the answer was achieved. This could have been markings on the graph or calculations. Due to this only around two thirds of students were awarded the mark.

QUESTION A9.1

Question was answered well with around two thirds of students gaining full marks.

QUESTION A9.2

Around three quarters of students gained at least one mark. As the command word was *determine* it was expected that students would show the steps of their calculations. Many students tried to do all steps at once which often led to errors in their final answer.

QUESTION A9.3

Three quarters of students gained this mark from a correct read off from the graph.

QUESTION A9.4

Many students knew this had something to do with an area so were able to access the first marking point. Just under two thirds of students gained the first mark but only just over 10% were awarded the 2nd and 3rd marks.

QUESTION B10.1

Students struggled to appreciate that there were 0.5mm uncertainties on each measurement and 4 measurements in total. However, around a third of students appreciated that the subtraction of quantities leads to the addition of their uncertainties and gained 1 mark.

QUESTION B10.2

Many students only used the first and last sets of error bars to complete their lines of best fit. This meant that both of their lines did not pass through all of the error bars. Many students simply drew a single line of best fit or did a “dot to dot” method to create a line.

QUESTION B10.3

As most students had drawn both best-fit lines in the previous part of the question they were able to access marks for their gradients and finding a mean. However, just under a fifth of students had drawn their lines sufficiently well that they arrived at an answer within range.

QUESTION B10.4

Around a third of candidates gained the mark with just under a fifth not attempting the question.

QUESTION B10.5

Just less than half of the candidates were able to access the first mark for stating the effect this would have but only around a third went on to explain how this impacted the uncertainty.

QUESTION B11.1

The main error on this part of the question was students who did not draw a smooth curve. Some students tried to use the points to draw a straight line of best fit. Just over 40% of students were awarded this mark.

QUESTION B11.2

Most students appreciated that they needed to find an acceleration from the graph and multiply it by the mass. Some students did not appreciate that this was the gradient at the steepest part, or they drew poor tangents that meant their final answer was outside of the quite large range.

QUESTION B11.3

Some excellent answers with around two thirds of students gaining at least one of the available marks. The *explain* command word was again found to be challenging to many students. Many students only made simple statements without linking ideas together to form an explanation.

QUESTION C12

Around 80% of candidates gained the mark.

QUESTION C13

Around 70% of students correctly selected A. C was the next most chosen answer by students.

QUESTION C14

Around 70% of students correctly selected D. C was the next most chosen answer by students.

QUESTION C15

Two thirds of students selected answer D not appreciating that the question asked for the order of magnitude not the value.

QUESTION C16

Over 80% correctly identified C as the answer

QUESTION C17

Over 75% correctly identified A as the answer

QUESTION C18

Just over 70% selected the correct answer. Around 20% of candidates selected C which was the results of a power of ten error in their calculations.

QUESTION C19

Around 70% of students correctly identified D with all other distractors getting a roughly equal share of the remaining students answers.

QUESTION C20

A proved to be a significant distractor here with 20% of students selecting it.

QUESTION C21

C was correctly identified by three quarters of candidates.

QUESTION C22

Around 80% of candidates correctly answered C to this straightforward power question.

QUESTION C23

70% of students answered correctly. A was the next most popular answer.

QUESTION C24

This was the least accessible multiple-choice question on the paper. 40% of students answered correctly. The main error was students not identifying that this point was an additional 75cm further away from the source.

QUESTION C25

70% of students correctly identified C as the correct answer with the other options getting a roughly equal share of the remaining selections.