



External Assessment Report 2013

Subject(s)	Physics
Level(s)	Intermediate 1

The statistics used in this report are pre-appeal.

This report provides information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published question papers and marking instructions for the examination.

Comments on candidate performance

General comments

The average percentage mark for section A was higher than for section B. However, the gap between the two sections is less pronounced than in the previous two years.

Very few candidates scored either very high marks or very low marks in this examination.

There has been an unintentional easing in the standard of the paper compared to previous years. Some questions, for example, 23(c)(i), were intended to distinguish between candidates that would attain an A grade and those that would pass proved accessible to all students. This has resulted in the grade boundaries being raised compared to previous years.

Some candidates have answered section B of the paper in pencil rather than in ink. Several markers commented again on this in their reports suggesting that it may have made the writing of candidates difficult to interpret.

Areas in which candidates performed well

Candidates performed well in questions 22(b) and (c), showing that their graph drawing and interpreting skills were good. This indicates that candidates are coping better with this type of question than they have in previous years.

In question 27(b)(i) a large majority of candidates could correctly identify the lens type.

Candidates performed very well in question 28(c) in describing sound.

In question 33(a) virtually all candidates could complete the block diagram. In fact all of question 33 was well done, as was 34. This shows that the candidates managed the questions on electronics well. It also indicates that candidates worked through the paper consistently.

The questions using equations were also well done in general, with the notable exception of putting the correct units in the answer (see below).

Areas which candidates found demanding

Candidates still have difficulties giving basic definitions. This led to questions 21(a) and 26(a) being poorly answered.

In some cases candidates did not give enough detail to gain the mark for a question. For example, in question 32(c) many candidates gave 'up' as their answer instead of 'up the

slope'. In question 28(b) many candidates stated what ear protectors did rather than explain how they worked. This led to a low score in this particular question.

Candidates are still not using units properly. Centres are reminded that 'mps' is not acceptable as an abbreviation for metres per second, and 'secs' is not acceptable for seconds.

In question 32(b) a number of candidates gave the units for weight as kilograms despite answering question 32(a) correctly where they had identified the unit for weight as newtons. Centres should remind candidates to be careful when answering this type of question.

Advice to centres for preparation of future candidates

Units

Centres should remind candidates that only correct units or their correct abbreviations will be accepted. To avoid being penalised for incorrect abbreviations, candidates could be encouraged to write out the units in full. It should also be emphasised to candidates that voltage gain has no units.

Instructions to candidates

Centres should encourage candidates to read the instructions on the paper carefully.

Candidates should be answering questions in blue or black ink. Candidates should, however, be aware that they should be using a pencil for the multiple choice element of the exam. Candidates should also be encouraged to use a pencil for diagrams and to use a ruler when drawing straight lines.

Explanations

Candidates should be encouraged to be careful in their use of language. Candidates should also be told to be careful of repeating information that is given in the stem of the question. They should also take care to ensure that, when asked for an explanation, they should be explaining what happens using physics.

Definitions

Candidates should be able to give basic definitions of physics quantities, eg frequency and ultrasound. Many candidates are not responding well to these types of questions.

Calculations

Candidates should be encouraged to set out calculations formally. If candidates copy the correct formula from the data book at the start of a calculation and then substitute the figures correctly, they will gain some credit even if they then make an arithmetic error. A number of candidates are simply entering a final answer and hence running the risk of scoring no marks for the question if they have made an error.

**Statistical information: update on Courses
Intermediate 1**

Number of resulted entries in 2012	2769
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Number of resulted entries in 2013	2567
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Statistical information: Performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark 80				
A	28.8%	28.8%	739	59
B	24.5%	53.3%	628	51
C	21.6%	74.8%	554	43
D	8.1%	83.0%	209	39
No award	17.0%	100.0%	437	-

General commentary on grade boundaries

- ◆ While SQA aims to set examinations and create marking instructions which will allow a competent candidate to score a minimum of 50% of the available marks (the notional C boundary) and a well prepared, very competent candidate to score at least 70% of the available marks (the notional A boundary), it is very challenging to get the standard on target every year, in every subject at every level.
- ◆ Each year, SQA therefore holds a grade boundary meeting for each subject at each level where it brings together all the information available (statistical and judgemental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the management team at SQA.
- ◆ The grade boundaries can be adjusted downwards if there is evidence that the exam is more challenging than usual, allowing the pass rate to be unaffected by this circumstance.
- ◆ The grade boundaries can be adjusted upwards if there is evidence that the exam is less challenging than usual, allowing the pass rate to be unaffected by this circumstance.
- ◆ Where standards are comparable to previous years, similar grade boundaries are maintained.
- ◆ An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions, and the mix of questions, are different. This is also the case for exams set in centres. If SQA has already altered a boundary in a particular year in, say, Higher Chemistry, this does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related, as they do not contain identical questions.
- ◆ SQA's main aim is to be fair to candidates across all subjects and all levels and maintain comparable standards across the years, even as arrangements evolve and change.