



External Assessment Report 2011

Subject	Physics
Level	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.

General comments

The average percentage mark for Section A was higher than for Section B.

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

A number of candidates appeared to have stopped working on the paper after Question 32. There is a clear instruction to candidates that they have to turn over the page for the next question.

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

Areas in which candidates performed well

In Section A, candidates performed well in Questions 1, 2, 3, 4, 7, 14 and 15.

In Question 21 (b), nearly all candidates could identify the tuner from its function.

In Question 22 (a), a large majority of candidates could state the energy changes in an earpiece and a microphone, and in part (b) could identify an advantage of a mobile phone.

In Question 23 (b)(i), candidates managed to draw the altered waveform successfully.

In Question 28 (a), candidates could explain the time difference between seeing a flash of light and hearing the noise.

In Question 29 (a), most candidates were successful in drawing the graph.

In Question 33 (a), a large number of candidates could name the parts of an electronic system.

With the exception of the use of units (see below), the questions in which candidates were asked to carry out calculations were completed successfully.

Areas which candidates found demanding

In Section A, candidates performed poorly in Questions 5, 9, 12, 13, 16 and 18.

In questions where the candidates were expected to give an explanation they did not, in general, perform well. In particular, Questions 21 (c)(ii), 29 (b), 33 (d) and 34 (b)(ii), which candidates appear to have found particularly demanding.

A significant number of candidates could not successfully answer Questions 26 (a)(ii), 26 (c)(i) and 30 (b)(ii).

In Question 31, many candidates did not gain marks because their answers were too vague, for example in the measurements box they wrote 'distance and time' without stating which distance it was they would measure and what time they would measure. A number of candidates described a method for measuring instantaneous speed.

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 some candidates wrote the unit for speed incorrectly despite the unit being written on the graph on this page.

Advice to centres for preparation of future candidates

General

Units

Centres should remind candidates that only correct units or their correct abbreviations will be accepted. In order to avoid being penalised for incorrect abbreviations, candidates could be encouraged to write out the units in full.

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 and if they are instructed on the paper to turn over for the next question, they should do so.

Explanations

Candidates should be encouraged to be careful in their use of language. For example, in Question 21 (c)(i), many candidates stated that 'geostationary satellites do not move' rather than 'they stay above the same point on the surface of the Earth'.

Recall of facts

A number of candidates were unable to recall facts when asked to do so. In Question 21 (a) a significant number of candidates could not state the speed of radio signals in air and in Question 26 (a)(ii) and 26 (c)(i) a considerable number of candidates could not recall facts about radiations. Centres should encourage candidates to learn the basic definitions and facts associated with this Course.

Statistical information: update on Courses

Intermediate 1

Number of resulted entries in 2010	2,608
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Number of resulted entries in 2011	2,721
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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	23.4%	23.4%	637	55
B	23.6%	47.0%	642	47
C	20.1%	67.1%	547	40
D	8.9%	76.0%	242	36
No award	24.0%	100.0%	653	-

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, therefore, SQA 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 Head of Service 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.