



External Assessment Report 2012

Subject(s)	Biology
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 number of presentations at Intermediate 1 was higher than last year and the highest of the last four years. Most candidates were in S4 with the number of presentations at other year groups and from FE colleges remaining relatively low.

Overall, there was a slightly improved candidate performance in this year's examination, due mainly to candidates scoring better on average in Section A, compared to last year.

Performance in questions requiring Knowledge and Understanding continued to be challenging for many candidates. In both Section A and Section B, many candidates found questions requiring Knowledge and Understanding demanding.

The total percentage of candidates achieving Grades A–C was very slightly higher comparable to that in 2011 and broadly in line with previous years and centre estimates.

The recent trend of fewer candidates leaving questions unanswered was sustained.

Areas in which candidates performed well

Based on statistics, most candidates performed well in the following areas:

Section A

Question 1: Identification of parts of the breathing system (1 mark, KU)

Question 8: Conclusion from information in graph (1, PS6)

Question 9: Identification of examples of aspects of health triangle (1, KU/PS)

Question 10: Identification of appropriate information taken from diagram (1, PS6)

Question 15: Definition of photosynthesis (1, KU)

Section B

Question 1 (a) (i)–(iii): Identification and selection of relevant information from text (3, PS1)

Question 2 (b): Description of blood flow through different vessels (2, KU)

Question 2 (c): Knowledge of substances carried in the blood (1, KU)

Question 4 (a) (i): Conclusion drawn from knowledge and data provided (1, PS6)

Question 7 (b) (i): Calculation (1, PS3)

Question 9 (a): Knowledge of types of milk and their production (1, KU)

Question 11 (a): Simple arithmetical calculation (1, PS3)

Question 11 (b): Labelling of pie chart (2, PS2)

Question 12 (a) (i) and (ii): Identifying and extracting relevant information from a line graph (2, PS1)

Question 12 (b): Knowledge of human fungal infection (1, KU)

Areas which candidates found demanding

Based on the statistics, many candidates found difficulty in the following areas:

Section A

Question 4: Examples of health conditions which can be result of high blood pressure (1, KU)

Question 6: Extraction and processing of data from graph (1, PS6)

Question 13: Knowledge of description of features of pelleted and non-pelleted seeds (1, KU)

Question 16: Analysis and calculation using numerical from data in table (1, PS4)

Question 19: Conclusion using analysis of data taken from graph (1, PS1, 4 and 6)

Question 22: Improvement to experimental design to improve validity (1, PS5)

Section B

Question 1 (b): Name of instrument used to diagnose and treat asthma (1, KU)

Question 3 (a) (ii): Calculation using relevant data from table of information (1, PS3)

Question 4 (b): Effect of practice and drinking alcohol on reaction time (1, KU)

Question 4 (c): Knowledge of health condition indicated by long reaction time (1, KU)

Question 5 (a): Knowledge of capillary matting (1, KU)

Question 6 (c): Knowledge of purpose of rooting powder (1, KU)

Question 8 (c): Knowledge of process of fermentation (1, KU)

Question 10 (b): Calculation of simple, whole number ratio (1, PS3)

Advice to centres for preparation of future candidates

General

Generally, candidates were well prepared and a significant number of candidates performed very well in the examination.

Centres are continuing to present candidates appropriately, with their skills and abilities being suited to this Course. Few candidates scored very poorly.

Knowledge and Understanding continues to be an area where candidates do not, in general, perform well. As in previous years, centres should work with candidates to ensure that they are well prepared.

A significant number of candidates continue to find all but the most basic arithmetical calculations challenging, in particular ratios. Centres may wish to consider developing liaison between staff delivering this Course and those colleagues responsible for other relevant and related areas of the curriculum such as Mathematics and numeracy across the curriculum. This would provide a more consistent approach to learning and teaching and allow candidates to develop transferable skills across curricular areas.

Questions requiring Problem Solving skills and those in a context of Practical Abilities continued to be generally well answered. Improvement in the standard of drawing bar graphs has been sustained, but the overall standard of drawing line graphs continues to be variable. The drawing of appropriate conclusions from information provided is also variable. The need to clearly and carefully present information in graphs should be emphasised to all candidates.

The identification of variables to be controlled in experimental contexts was demanding for many candidates. Centres may wish to emphasise to candidates the need to control all independent variables, except for the one under investigation.

Statistical information: update on Courses

Intermediate 1

Number of resulted entries in 2011	5,873
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Number of resulted entries in 2012	6,358
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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 75				
A	19.4%	19.4%	1,235	52
B	26.1%	45.6%	1,662	43
C	24.7%	70.3%	1,570	35
D	10.8%	81.0%	686	31
No award	19.0%	100.0%	1,205	-

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.