External Assessment Report 2010

Subject	**Computing**
Level	**Intermediate 2**

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 2010 paper was of a similar standard to the previous papers and the performance of the candidates was very similar to that of the past five years. A good attempt was made at most questions, although as with previous years, many candidate responses were brief and lacked the detail required for Intermediate 2 level.

Areas in which candidates performed well

Computer Systems and Software Development

- The ability to understand a variety of standard algorithms is excellent.
- The difference between a compiler and an interpreter is well understood.
- Test data tables were well understood.
- How to make a program readable.
- The use of e-mail and its functions is well known.

Artificial Intelligence

- Language processing and its applications are well understood.
- Finding solutions within trace tables is performed well and the creation of tracing queries is improving.

Networking

The use of the internet and its advantages and disadvantages are understood well by the candidates.

Multimedia

The question on the difference between JPEG and GIFs was answered very well by most candidates.

The lossy and lossless compression question was well understood by the majority of candidates.

Areas which candidates found demanding

Computer Systems and Software Development

- Candidates were able to name design notations but were unable to give acceptable descriptions.
- Some candidates were unable to say what a pre-defined function was and gave a variety of programme language keywords.
- The reasons why an interface is required were confused by several candidates.

- Many candidates still do not know that there are 1024 bytes in a Kilobyte — not 1000.
- Several candidates did not know that a USB pen drive is a solid state storage device not a magnetic storage device.
- The question on functions of an operating system was answered very well in previous years but this year it seems that the candidates did not know the list of functions that was once well known.
- Candidates were not good at explaining why input validation is required.

Artificial Intelligence

- Too few candidates could give uses for an Artificial Neural System or knew how it is used in the stock market.
- Trace tables are still not completed properly but performance in this area is improving relative to previous years.

Networking

- The process of Domain Name Resolution was unknown to several candidates; occasionally it was confused with Domain Name Service.
- Converging technology is an area that the candidates continue to have difficulty with.
- Data encryption was not always well described although it seemed that the candidates knew what was happening.
- RIPA was not as well understood as it should be by the majority of candidates.

Multimedia

- Candidates are still not able to give an accurate description of colour depth.
- 'Resolution independent' was not a phrase that came to too many candidates; instead, long, erroneous explanations were given.
- The attributes and advantages of MIDI did not seem to be well understood.

Advice to centres for preparation of future candidates

File suffixes such as .rtf or .txt are not acceptable answers for standard file formats.

Candidates should be taught not to use trade names, for example Microsoft Word, but to use the software type, in this case word processor.

Candidates must use the word 'digital' before camera or video camera to attract marks for an answer such as this.

Centres should ensure that candidates have a good understanding in areas such as:

- operating systems
- interfaces
- input validation
- trace tables

Statistical information: update on Courses

Number of resulted entries in 2009	2948
Number of resulted entries in 2010	3079

Statistical information: performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark — 100				
A	30.5%	30.5%	940	70
B	24.9%	55.5%	768	60
C	21.0%	76.5%	648	50
D	7.1%	83.6%	219	45
No award	16.4%	100.0%	504	—

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.