External Assessment Report 2014

Subject(s)	Computing
Level(s)	Intermediate 2

The statistics used in this report are prior to the outcome of any Post Results Services requests

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 large reduction in the number of S4 students taking this exam was reflected in the overall drop in performance levels from previous years. There was a noticeable difference in the literacy levels of the candidates and an increase in the number of questions that were not attempted.

A number of 'A' discriminator questions in each of the options were, in hindsight, set at too high a level, and this was taken into consideration when setting the pass mark at the higher levels.

Areas in which candidates performed well

Computer Systems and Software Development

- Question 2: Most candidates know how many bits ASCII uses to store a character.
- Question 8: The majority of candidates know that a program must be translated into binary before being run.
- Question 12(d)(i): Candidates know that a Wide Area Network is required for communicating across large areas.
- Question 13(c)(i): Candidates are very familiar with the difference between ROM and RAM.
- Question 13(d)(ii): The majority of candidates understand why high level languages are used rather than machine code when creating programs.

Artificial Intelligence

- Question 17(a): The advantages of expert systems are well understood.
- Question 18(a): Candidates are very good at finding the results of queries.

Computer Networking

- Question 19(b)(ii): The use of attachments are well known to candidates.
- Question 20(a)(ii): Candidates are familiar with the types of home appliances that may be remotely controlled from a computer.

Multimedia Technology

- Question 22(b)(i): Candidates are familiar with lossy compression being used by MP3.
- Question 22(c)(ii): Candidates are familiar with the increase in file size that will occur in recording at the highest quality.

Areas which candidates found demanding

Computer Systems and Software Development

- Question 1: A number of candidates found this difficult to answer.

- Question 6: Most candidates still think that the problem solved by using standard file formats is a hardware problem rather than a software problem.
- Question 9(b): The requirement of when to use the 'Counting Occurrences' standard algorithm seemed unknown to many candidates.
- Question 12(b)(iii): This question was answered poorly by many candidates using phrases such as 'Saves time', 'makes it easier', etc.
- Question 12(f)(i): Too many candidates did not answer the question fully in that black would be stored as a 1 and white as a 0 (or vice versa).
- Question 13(c)(ii): Although the majority of candidates know the difference between ROM and RAM, very few can suggest a use for ROM. Many seemed to confuse ROM with CD-ROM.

Artificial Intelligence

- Question 15(b)(i): Few candidates gave a meaningful sensor that related to the task.
- Question 16(b)(ii): Candidates seem to find it difficult to apply their knowledge to the specific problem.
- Question 18(d): This question was set at too high a level for the candidates and, not surprisingly, was not answered well by the majority of candidates. This was taken into account when setting the upper pass mark.

Computer Networking

- Question 19(c): Many candidates did not respond with the fact that video files are large and therefore require large bandwidth. Many responded with answers relating to buffering, obviously understanding the problems that can occur with inadequate bandwidth but not answering the question asked.
- Question 19(d): This question has probably been overtaken by modern search engines, which don't make much differentiation as to how you search. Most candidates seemed unaware of efficient methods of searching.
- Question 20(d): Many candidates did not know that DNS stood for Domain Name Service.
- Question 20(e): RIPA was unfamiliar to many candidates.
- Question 21(b)(ii)(iii): This question was looking for answers more technical than would be expected at Intermediate 2. This was taken into account when setting the upper pass mark.
- Question 21(c): Candidates seemed unfamiliar with the benefits and limitations of voice transmission.

Multimedia Technology

- Question 23(v): Far too many candidates obviously know the answer but don't take the time to correctly write Copyright, Designs and Patents Act.
- Question 24(b)(i): Few candidates knew that colour depth was the number of bits used to store a colour.
- Question 24(c): This question was looking for too technical answers than would be expected at Intermediate 2. This was taken into account when setting the upper pass mark.

Advice to centres for preparation of future candidates

Candidates should take their time and read the questions carefully and give an answer that is relevant to the question that has been asked.

Candidates should try to answer in as much technical detail as they can, eg ‘The use of macros will allow tasks to be completed with one key press rather than multiple key presses’ rather than ‘Saves time’.

Statistical information: update on Courses

Number of resulted entries in 2013	1138

Number of resulted entries in 2014	844

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	56.4%	56.4%	476	158
B	28.3%	84.7%	239	134
C	11.5%	96.2%	97	110
D	2.7%	98.9%	23	98
No award	1.1%	-	9	-

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.