Course Report 2015

Subject	Computing Science
Level	Higher

Section 1: Comments on the assessment

Component 1: Question paper

The examining team felt that this was a fair and accessible question paper but it is evident that many candidates found some of the content and the depth required in some questions challenging. Although some questions did not perform as expected, Markers did comment that the performance of the cohort was relatively poor.

For this Course, the intention was to set an assessment with grade boundaries at the notional values. However, all boundaries were moved down by two marks to reflect exceptional delivery issues related to the information systems aspects of the Course. In addition, a question which did not perform as expected led to a further movement down of two marks at the C boundary and one mark at the A and Upper A boundaries.

Component 2: Assignment

The marks attained by the candidates in this section were very similar to those of the predecessor Higher Computing Course of the past two years.

Section 2: Comments on candidate performance

Component 1: Question paper

The examining team reported that the performance of the cohort was relatively poor. This is reflected in the average mark for the question paper which was 33.7 out of 90. Markers reported that there was a distinct lack of appropriate technical clarity for Higher and many candidates were giving answers which were more at National 5 standard.

Some Markers reported that the Information System Design and Development (ISDD) questions were not as well answered as the Software Design Development (SDD) questions and felt that this could be due to the new content and concepts in the ISDD Unit, which perhaps are not very familiar to a number of teachers and lecturers.

Component 2: Assignment

The assignments were extremely well attempted by the majority of the candidates.

All centres that were verified were within acceptable tolerances.

Section 3: Areas in which candidates performed well

Component 1: Question paper

Question 2 (b):   Most candidates were able to identify the correct relationship between a jockey and a horse yet few managed to identify the correct relationship between people and hobbies in the previous question.

Question 14 (a):   Most candidates could identify a Boolean data type.

Question 15 (a):   Most candidates were familiar with the purpose of using an emulator.

Question 15 (e) (i):   The majority of candidates understood an environmental advantage of upgrading a computer system.

Question 17 (a) (ii): The majority of candidates were able to identify the correct output from the listed program.

Question 17 (b) (ii): Most candidates were able to identify the logic error.

Question 17 (b) (iii): Most candidates were able to identify and correct the error in the algorithm.

Question 17 (c):   The majority of candidates were able to identify missing values from the trace table.

Component 2: Assignment

Candidates showed that they had good skills in programming. They also showed ability in database and web creation.

Section 4: Areas in which candidates found demanding

Component 1: Question paper

Question 2 (a):   Although the majority of candidates could identify the relationship in part (b) of this question, they found it challenging to identify the 'many to many' relationship in part (a).

Question 3:   Some candidates found it challenging to identify the output from the listed program.

Question 4:   This question proved to be more difficult than anticipated and in retrospect should have appeared later in the paper. 17.6% of candidates did not attempt this question and those who did, did not perform well. Some candidates were able to identify the feature (a rule) but very few were able to give a benefit of its use.

Question 5:   Some candidates did not give accurate implications of RIPA. Many got confused with the Data Protection Act and answered from the perspective of employers being able to spy on their employees.

Question 12 (a):   The majority of candidates did not identify the concatenated Primary Key and gave a single Primary Key eg Order no. as their answer.

Question 12 (d):   In some cases it was clear that candidates understood the process to some level but few were able to articulate their response with clarity. The majority did not mention the report footer or summary field which was necessary for the third mark.

Question 13 (b):   This question proved challenging for some candidates. Most gave generic statements of how file size is reduced without actually describing compression.

Question 13 (c):   Even though the question stipulates 'regardless of the operating system on their device', the majority of candidates mentioned the use of different operating systems in their answers. They did not grasp the concept of a web-based solution.

Question 14 (c):   An 'A' discriminator question that was poorly understood and poorly answered by most candidates. Most candidates answered this question by explaining actual and formal parameters which is incorrect. Some identified a correct 'parameter passed by reference' but did not state that the value will be updated and returned/passed out and therefore only received one mark.

Question 14 (d)(ii):   The majority of candidates found this question challenging. They tended to answer the question from a public access versus private access perspective and did not stipulate the advantages of private and public clouds.

Question 15 (b):   Some candidates gave answers that repeated information that they were provided with in the question. While it was clear that candidates understood the concept of permissions few were able to articulate how permissions were set up, which is the intended level at Higher.

Question 15 (c)(i):   Despite extensive coverage of interfaces in the existing Higher Computing Course, this question was not well answered.

Question 15 (c)(ii):   Few candidates gave two reasons on the suitability of a particular type of graphic. Candidates perhaps thought they would be given one mark for stating the type of graphic and one mark for its suitability.

Question 16 (b):   Many candidates knew the difference between internal and external style sheets but were not able to explain the effect they would have on load times.

Question 16 (c):   This question was very poorly answered. Candidates simply did not have the necessary detailed knowledge of HTML code.

Question 16 (f):   Some candidates had a very poor understanding of how a database can support a website. Responses were simple explanations of the general database-driven website idea, eg the database updates the site, without any depth of understanding in terms of the role of code/SQL/scripts, etc.

Question 17 (a)(i):   Few candidates mentioned an array or a record and consequently did not obtain many marks for this question.

Component 2: Assignment

The design of programs and information systems was an area that was not as well completed as other aspects of the assignment.

Section 5: Advice to centres for preparation of future candidates

Component 1: Question paper

Centres are advised that candidates must improve their performance in Section 1. These are predominantly straightforward short-answer questions and candidates need to be well prepared for these types of questions.

Centres are advised that candidates need to provide answers with a higher degree of technical clarity required at Higher. Many candidates are giving responses which are at National 5 standard.

Centres are advised that candidates must relate their answers to the scenario or context of the question presented to them if asked to do so.

Centres are reminded that candidates must give equal importance to the ISDD Unit as many Markers commented that these questions were very poorly answered by some candidates in comparison to the SDD questions.

Component 2: Assignment

Some centres have used pro formas to help guide the candidates through the assignment. Centres should ensure that if a pro forma is used it is only an electronic version of the SQA provided assignment, as no other direction can be given to the candidates.

Centres should support candidates in ensuring that they use the checklists within the assignments to ensure that they have evidence for all stages of the assignment.

It is not a requirement to have all candidates work in paper form but if a centre is selected for verification then, at present, the selected candidate evidence must be made available in paper format.

The purpose of the assignment is to assess practical application of knowledge and skills from across the Course to develop a solution to an appropriately challenging computing science problem. Centres should ensure that the candidates acquire the knowledge and skills that will be required to undertake the assignment, from all areas of the Course, before they undertake the assignment.

Statistical information: update on Courses

Number of resulted entries in 2014	0

Number of resulted entries in 2015	1182

Statistical information: Performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark - 150				
A	16.1%	16.1%	190	102
B	24.5%	40.6%	290	86
C	28.2%	68.8%	333	71
D	13.8%	82.6%	163	63
No award	17.4%	-	206	0

For this Course, the intention was to set an assessment with grade boundaries at the notional values of 50% for a Grade C and 70% for a Grade A. However, all boundaries were moved by two marks to reflect exceptional delivery issues (specific learning & teaching activity related to the information systems aspects of the Course). In addition, a non-functioning question led to a further movement of two marks at the C boundary and one mark at the A and Upper A boundaries.

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.