



## External Assessment Report 2011

Subject	<b>Information Systems</b>
Level	<b>Intermediate 2</b>

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

Once again this year, there was an improvement in the standard of responses, with fewer candidates achieving low marks. Both centres and candidates are to be congratulated on this. However, candidates would benefit by developing their answers in line with the number of marks awarded for the question. If a question is worth 2 or 3 marks, then two or three points are expected in the answer — not, as happened many times this year, two or three words in the answer.

Uptake for the optional topics shows that Expert Systems had the fewest centres presenting, with Applied Multimedia and The Internet having roughly equal presentations. Fewer candidates answered all optional sections than in previous years.

Section 1 was completed to a good standard this year, although disappointingly Question 1 was very poorly answered. As it forms the basis for the entire Course, it was expected to be an easy question to begin with; however, most candidates failed to grasp the concept that information systems process the data that they store. A greater number of candidates attempted every question in Section 1, although a few candidates still persist in missing out several questions. Candidates who give their best attempt to every question attain higher marks.

Section 2 was completed to a good standard this year. Question 15 (b) (the normalisation question) was completed to a high standard, with most candidates gaining the majority of the 7 marks available. Worryingly, many candidates still appear not to understand the difference between 'state' and 'describe'. 'State' means that the answer should be given without any need for explanation. 'Describe' means that their answer must be an extended response, giving explicit details in their answer. Question 14 (d)(i) is an example of this. Candidates were asked to 'describe' one area of health and safety regulations relating to using computers at work. Candidates who stated 'seating' or 'lighting' did not gain the mark as their answer did not describe the area, yet they obviously knew the correct answer. Candidates who gave descriptions such as 'seating should be height adjustable' received the mark.

In Section 3, all optional topics were completed satisfactorily, although there is considerable evidence that candidates are less knowledgeable about the optional Units than they are about the core Units.

Compared to previous years, the Applied Multimedia was poorly done, with candidates lacking even the basic knowledge of the Unit. For example, Question 18 (b)(i) asked 'Michael sketches screens to be included in the CD-ROM. State Michael's job title.' Very few candidates were able to identify Multimedia Designer.

Once again, many candidates were not expanding their answers into descriptions. For example, Question 18 (c)(i) asked 'Describe two design principles relating to text demonstrated in the sketches above.' Answers like 'font and style' gained no marks as they were not descriptions, whereas answers like 'There should be a restricted number of fonts used' gained a mark.

Candidates doing the Applied Multimedia option should ensure that sufficient time and practice is allocated to learning the underlying theory behind the Unit.

Compared to previous years, the Expert Systems Unit was very poorly done, with candidates lacking even the basic knowledge of the Unit. For example, Questions 22 (a) and (b) asked about the stages in the development of an expert system. There are no more fundamental concepts in this Unit, yet very few candidates were able to give a satisfactory response. As usual, candidates did well where they were applying their knowledge, for example creating the attribute pairs and writing rules.

Candidates doing the Expert Systems option should ensure that sufficient time and practice is allocated to learning the underlying theory behind the Unit.

The Internet option was done better than in previous years. It was highlighted in last year's report that more technical detail was required in candidates' responses. It is pleasing to note that some centres had taken this on board. However, many candidates still do not give enough detail on the most basic concepts and terms listed in the arrangements, for example the function of a switch or the function of the TCP/IP protocols.

### **Areas in which candidates performed well**

Question 4: most candidates recognised the one-to-many relationship.

Question 15 (b): most candidates were able to identify and remove the multi-valued fields.

Questions 19 (d)(i) and (ii): most candidates were able to recognise the issue of copyright and provide a suitable solution to this problem.

Question 21 (a): most candidates were able to complete the attribute pair.

Question 24 (c): most candidates were able to identify IP address.

### **Areas which candidates found demanding**

Question 1 was very poorly answered. As it forms the basis for the entire Course, it was expected to be an easy question to begin with; however, most candidates failed to grasp the concept that information systems process the data that they store.

Question 2 (b): many candidates failed to recognise that it was the combination of the label and data that make information.

Question 10 demonstrated that although candidates could give examples of validation, few could explain that validation is used to ensure that the data being entered makes sense.

Question 18 (b)(i): very few candidates correctly identified Michael's job title as Multimedia Designer.

Questions 20 (b)(i), (iii) and (iv) demonstrated that although candidates may know the components of an expert system, they are unable to relate these to a layout they have not experienced before. Candidates would benefit from having experience of a variety of expert system layouts.

Question 24 (d)(i): very few candidates were able to describe the function of the TCP protocol as dividing the message up into packets.

Question 24 (d)(ii): very few candidates were able to describe the function of the IP protocol as providing the source and destination addresses of the packet and using these to route the message around the network.

Questions 23 (c) and 25 (d) demonstrated that candidates still have great difficulty in describing information intellectual property rights. Those candidates that linked the concepts of original knowledge and the legal protection that can be assigned to this, were most likely to be awarded the mark.

## **Advice to centres for preparation of future candidates**

### **General**

Candidates should ensure that they look at the number of marks allocated to each question and respond accordingly. If a question is worth 2 or 3 marks, then it is likely that the candidate would have to give 2 or 3 points to gain full marks.

Centres should ensure that sufficient time is allocated to the delivery of the optional topic. Within this time allocation sufficient time must be allowed for the delivery and reinforcement of the key concepts of the chosen optional topic.

Centres should ensure that candidates are aware that when a question asks them to 'describe' or 'explain', then an extended response is expected and not just a few words.

Although improving, a substantial number of candidates are still losing marks by using 'trade names' like Microsoft PowerPoint rather than the type of software, ie presentation. Centres should reinforce to candidates that if they are asked for the **type** of software, then actual names of software will not be accepted.

## Statistical information: update on Courses

Number of resulted entries in 2010	1,547
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Number of resulted entries in 2011	1,366
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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 100				
A	32.4%	32.4%	443	70
B	25.6%	58.1%	350	60
C	20.6%	78.6%	281	50
D	6.2%	84.8%	85	45
No award	15.2%	100.0%	207	-

## **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.