



## External Assessment Report 2014

Subject(s)	Information Systems
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 standard of candidate response was markedly lower this year, with questions that have been asked year after year being poorly answered. This was especially true of questions where the candidate was asked to describe/explain. This is disappointing as it was highlighted in last year's report as an area where candidates could improve; so we would urge centres to reinforce to candidates that if the question asks for a description, they must give more than one or two words or it will not gain the marks.

Uptake for the optional topics shows that Applied Multimedia had the most centres presenting, with The Internet next. Expert Systems had the fewest presented. Disappointingly, the average mark for all three optional topics was just under half marks — even from candidates who had performed well in sections 1 and 2. Once again, many markers noted the lack of technical knowledge by candidates doing The Internet or Applied Multimedia options. Centres would benefit from spending additional time reinforcing the technical knowledge in each of the optional units.

## Section 1

Section 1 on the whole, was poorly answered this year in comparison to previous years.

- ◆ Question 2 asked for the definitions of primary and foreign keys. It is disappointing that a large number of candidates were unable to give an accurate definition of what is one of the most important components of the database unit.
- ◆ Question 7 — most candidates were able to explain about how basic and advanced users used the HCI differently, but few were able to give a suitable example.

## Section 2

Section 2 was poorly answered compared to previous years.

- ◆ Question 8(a) (the normalisation question) was answered well, but not to the very high standard of previous years. Once again, centres that had shown candidates how to lay out their answer to this question gained higher marks than other centres.
- ◆ Question 8(b) was answered very well and centres are to be congratulated on this.
- ◆ Question 9(d)(ii), surprisingly, was poorly answered. Many candidates could not apply their knowledge of the Data Protection Act to the scenario.
- ◆ Question 9(f) is an example of where candidates simply gave answers they had seen in past papers, rather than actually answering the question. The question asked 'Describe **two** social implications for customers who shop online.' The team were looking for responses like social isolation or closing of local shops or possible redundancies, as it was the social implications that were being asked about. A very large number of candidates however, saw 'shopping online' and wrote about the advantages.
- ◆ Question 10(b)(iv) was a two-mark question, although most candidates only gained one mark for reducing the line spacing. Most candidates were not able to explain about reducing the margins.

### **Section 3**

It was pleasing to see that even fewer candidates attempted all three sections this year. All optional topics were completed satisfactorily, although there is considerable evidence that candidates are less knowledgeable about the optional topics than they are the core units, with most candidates gaining less than half marks for the optional topic.

#### **Applied Multimedia**

Many markers commented on the lack of technical knowledge demonstrated by most candidates attempting this option. For example:

- ◆ Question 11(d)(ii) — many candidates were unable to answer in terms of the graphic design principles.
- ◆ Question 13(b) was meant to be a grade C question that almost all candidates would get correct. Surprisingly, very few candidates achieved this mark as they were unable to identify that a set of user instructions would be created at the documentation stage.

As was indicated last year, candidates doing the Applied Multimedia option should ensure that sufficient time and practice is allocated to learning the underlying theory behind the unit. Also, candidates will benefit from being given examples of theory questions in context, and ensuring that candidates are aware that they will only gain full marks by responding to the question in terms of the context.

#### **Expert Systems**

Previously, candidates who attempted the Expert Systems topic did better than those who did the other optional topics. However, this year the standard of response dropped a bit so that it was equal to the others.

As always, the problem solving questions in this unit were answered well. Most candidates gained almost full marks for 14(a) and (b). However, the knowledge and understanding questions were poorly answered in comparison.

Some candidates had once again, not learned the basic theory behind the unit so were unable to describe why forward chaining was an appropriate inferencing method (Question 14(c)) or the suitability of a domain for developing an expert system (Question 15(b)).

Candidates doing the Expert Systems option should ensure that sufficient time and practice is allocated to learning the underlying theory behind the unit. Also, candidates will benefit from being given examples of theory questions in context and being aware that they will only gain full marks by responding to the question in terms of the context.

#### **The Internet**

There remains evidence that some candidates choose to answer The Internet optional topic, despite having been taught an alternative unit. Invariably, these candidates do poorly as they do not have the technical knowledge required to answer the questions.

Candidates still fail to demonstrate the required technical knowledge that would be expected for this topic.

- ◆ Question 17(b)(ii) A — very few candidates were able to describe a problem with absolute addressing.
- ◆ Question 19(a)(iii) — very few candidates were able to give a comprehensive description of the role of a router in a network.

Candidates doing The Internet option should ensure that sufficient time and practice is allocated to learning the underlying theory behind the unit. Candidates are expected to be able to respond using technical vocabulary. Ensuring candidates are able to do this, should see candidate's performance improve.

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

- ◆ Question 6(a): Most candidates were able to identify a multi-valued field.
- ◆ Question 5: Most candidates were able to give two reasons for normalising data.
- ◆ Question 8(a): Nearly all candidates were able to identify and remove the multi-valued fields although some candidates are losing marks as they do not provide entity names.
- ◆ Question 8(b)(i): Most candidates were able to identify the relationship.
- ◆ Question 10(b)(iii): Candidates were able to explain the difference between data and information.
- ◆ Question 11(a): Most candidates were able to identify the benefits of using the WWW as a delivery medium.
- ◆ Question 11(b): Most candidates were able to identify aspects of the brief.
- ◆ Question 11(g): Most candidates could explain why compression is required.
- ◆ Question 14(a): Most candidates were able to represent the knowledge as a factor table.
- ◆ Question 14(b): Most candidates were able to create the forward chaining rule.
- ◆ Question 17(a)(i): Most candidates could identify the icon-based features.
- ◆ Question 17(b)(i): Nearly all candidates could identify File Transfer Protocol.
- ◆ Question 19(a)(ii): Nearly all candidates could identify an IP address.

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

- ◆ Question 3: poorly answered with few candidates being able to identify Netiquette.
- ◆ Question 9(d)(ii): few candidates were able to identify the data controller.
- ◆ Question 9(d)(i): a large number of candidates could not identify a row as a data object.
- ◆ Question 10(b)(ii): most candidates identified the reduced line spacing, but few candidates identified the reduced margins.
- ◆ Question 13(b): surprisingly, very few candidates could identify the Documentation stage as where the user instructions would be created.
- ◆ Question 14(c): despite this being highlighted nearly every year, candidates still find it difficult to explain why forward chaining is an appropriate inferencing method.
- ◆ Question 19(a)(iii): most candidates were unable to give a satisfactory explanation of the role of the router.

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

- ◆ Centres should ensure that candidates are aware that when a question asks them to describe in terms of the scenario, to gain full marks they must:

- make sure their answer refers to the scenario
  - be a description and not just a one word response.
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- ◆ Centres should allow candidates to practise questions in a problem-solving context. There is evidence that even candidates who are gaining high marks are losing most marks in the problem-solving questions.
  - ◆ 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, 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 encourage students to answer the optional topic they were taught.

## Statistical information: update on Courses

Number of resulted entries in 2013	1281
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Number of resulted entries in 2014	479
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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	14.0%	14.0%	67	70
B	22.3%	36.3%	107	60
C	31.9%	68.3%	153	50
D	11.5%	79.7%	55	45
No award	20.3%	-	97	-

## 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.