External Assessment Report 2015

Qualifications Manager	Information Systems
Subject(s)	Higher

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 examining team felt that this was a fair and accessible question paper. The standard of answers was better than previous years, and this was reflected in the increase in the average mark for the paper. The evidence presented at the awarding meeting suggested that there may have been an unintentional slight easing of the question paper in relation to previous years and this was taken into consideration when agreeing the grade boundaries.

Question paper

All Markers reported that the performance of the 2015 cohort was better than last year. This increase in candidate performance was also reflected by the centre estimates.

Uptake for the optional Units was more or less the same as last year. Applied Multimedia continues to be the most popular at approximately 56%, the Internet has remained at approximately 25%, and Expert Systems is up slightly at approximately 19%.

This year, there was a slight decrease in candidates' performance in Section 1, but a significant increase in Section 2 and significant increases across all three optional Units

Section 1

The standard of candidates' responses in Section 1 was slightly poorer this year. Candidates were challenged by the concept of a domain and could not give a definition of referential integrity, giving a definition of foreign keys instead. Many also were challenged describing how a summary field would be used even in calculating a total, although they would be accustomed to doing this in their practical coursework tasks. The majority of candidates knew about pagination but were not able to describe how it could help with the layout of a magazine. Some candidates were not able to accurately describe an archive.

Section 2

The responses to the normalisation question were much better this year, although Markers reported that very few achieved full marks. The E/R diagram question continues to be very well done, as does the data dictionary question. The majority of candidates were familiar with the criteria to evaluate software and they knew about the use of a persona. The only question in this section that the candidates found to be challenging was on the advantages or disadvantages of indexing an attribute.

Section 3

In the Applied Multimedia section, candidates continue to answer questions on requirements specifications very well. They are also getting very good at drawing outline storyboards, perhaps because this has been a feature of this section over the last few years. There was

also a marked improvement in the candidates' ability to give technical descriptions of the standard file types.

The question on the different types of testing was not answered well, as was the question on accessibility.

In Expert Systems, candidates continue to do really well in questions on factor tables and rules, but they found straightforward questions challenging such as the benefits and drawbacks of expert systems to a particular topic, in addition to the more challenging questions involving predicate and propositional logic. Candidates are also beginning to demonstrate a better understanding of the classification of expert systems, particularly relating to the medical domain.

Markers thought that the 6-mark question on certainty factors worked well and proved to be a good discriminator for the A candidates. However, candidates still found the comparison of expert systems and databases in terms of extracting information challenging.

In the Internet section, candidates continue to do well in the HTML questions, although they were challenged slightly with the HTML code to add a link for an e-mail address. They are very confident with the structure of URLs and how credit card details can be submitted securely. Markers thought that the 8-mark question on packet switching, routers and routing tables worked well and proved to be a good discriminator for the A candidates.

Areas in which candidates performed well

Section 1

Question 2(b): The majority of candidates are now very familiar with identifying the cardinality of a relationship.

Question 5: Many candidates could state three different types of organisational information system.

Question 6: The majority of candidates are very familiar with the characteristics that affect quality of information.

Question 7(b): Many candidates knew two features of text formatting.

Section 2

Question 12(a): The E/R diagram question continues to be very well answered as this is an established question.

Question 12(b)(i): The majority of candidates could state most of the missing values in the data dictionary.

Question 14(a): Most candidates are familiar with the concept of a persona.

Section 3

Applied Multimedia

Question 16(a): The requirements specification question is now well established, and most candidates did not have trouble in identifying three items with an example of each.

Question 17(a): Most candidates are able to recognise the different navigation structures.

Question 17(b)(ii): The majority of candidates are getting proficient at drawing outline storyboards from a description — this has been a feature of this section over the last few years.

Expert Systems

Question 20(b)(ii): Most candidates could create a factor table based on the information provided.

Question 20(b)(iii): Most candidates are very familiar with the rules question.

Question 20(b)(iv): If they managed the rules question in part (iii), then they had little difficulty in rewriting one of the rules using a different method of chaining.

The Internet

Question 22(a): Most candidates could create the HTML code.

Question 24(e)(i): Most candidates are very familiar with the construction of a domain name.

Areas which candidates found demanding

Section 1

Question 1(b): Candidates found the concept of a domain challenging and were not able to suggest a suitable domain name for the given attribute.

Question 3(a): Although in previous years, candidates had been getting better at the practical approach to referential integrity questions, they found it challenging to give an accurate definition in this case, mainly because they did not refer to the values of the foreign keys.

Question 4(b): Some candidates managed the calculated field part of this question but did not get the idea of ‘sum’ for the second mark.

Question 7(a): Most candidates knew what was meant by pagination but did not describe how it could help with the layout of the magazine.

Question 8: The concept of an archive still proves challenging with candidates as they did not give the idea that it is long term and permanent or read only.

Section 2

Question 12(b)(ii): This question had not been asked for a number of years. Consequently, some of the candidates had no idea of the concept of indexing.

Question 13(c): Candidate response to this question was poor even though the requirement was just to give a definition three terms found in a network strategy.

Question 14(c): Some candidates did not relate their answers to the scenario. They tended to give three generic enhancements without relating their enhancements to the 'zombie' theme.

Question 15(a): Critical path analysis continues to be a difficult concept to grasp for some candidates.

Section 3

Applied Multimedia

Question 16(c)(ii): Although many candidates knew what a metaphor is in part (i), they were not able to identify the metaphor illustrated in the question.

Question 17(c)(i): Some candidates did not relate their an answers to the requirements specification which was described on the facing page of the paper.

Question 17(c)(ii): It appeared that many candidates did not know what was meant by accessibility, and did not realise that the screen had good accessibility due to the option of selecting different languages.

Expert Systems

Question 20(a): Some candidates found challenge in describing a benefit and a drawback that would apply to an expert system on diseases. Perhaps candidates were looking for particular answers relating to diseases but in fact the normal generic answers still apply in this case, eg preservation of expertise, dissemination of expert knowledge, combining expertise of multiple experts, restricted domain, and high development/maintenance costs.

Question 21: Candidates did not manage to state six clear points on certainty factors.

Question 22(b), (c) and (d): Candidates continue to find questions on predicate and propositional logic challenging.

Question 23(a): Despite this question on comparing databases with expert systems featuring most years, candidates continue to find challenge with this comparison in terms of extracting information.

The Internet

Question 25(b)(i): The majority of candidates knew what a style sheet was but did not convey the concept of cascading or the concept of a hierarchy.

Question 28(c): Most candidates gave a description of how the company could use site usage tracking but did not mention how it would help increase sales.

Question 28(d): This question was very poorly answered as candidates did not realise that the comparison of e-mail addresses was the example of client side scripting in the screenshot.

Statistical information: update on Courses

Number of resulted entries in 2014	1059

Number of resulted entries in 2015	487

Statistical information: Performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark - 200				
A	16.6%	16.6%	81	142
B	27.9%	44.6%	136	122
C	30.0%	74.5%	146	102
D	11.5%	86.0%	56	92
No award	14.0%	-	68	-

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, the question paper proved to be, unintentionally, less demanding and a two mark movement from the notional was applied.

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.