



External Assessment Report 2009

Subject	Information Systems
Level	Higher

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

The 2009 Question Paper was of a similar standard to previous years and candidate's responses showed a slight improvement.

Uptake for the optional Units shows that Expert Systems had the fewest candidates presented with 17%. The Internet had slightly more with 21% but by far the most popular was Applied Multimedia with 62%. It was in the Applied Multimedia section where candidates scored the lowest average mark (17.52 out of 50) compared to the other two which were similar (Expert Systems 22.14 and the Internet 22.05) making a significant difference (just under 5 marks) between the average candidate mark in Applied Multimedia compared to the other two options.

The standard of candidates' responses in Section 1 continues to improve and they seem to be much more proficient in answering technical questions on such aspects as 'entity integrity', 'foreign keys' and 'database update anomalies'.

In Section 2, the response to the 'normalisation' question is very encouraging. The average mark was 10.11 out of 17 and it appears that the majority of candidates have grasped the technique of normalising to 3NF. The E/R diagram question is also very well done with candidates averaging 5.28 marks out of 6, however many candidates did not answer the strategy question very well; a number of candidates did not provide an answer regarding a software strategy. They tended to write about the other strategies or a strategy that they had most knowledge of resulting in a loss of 8 marks. The question on ethics also caused problems. Candidates did not seem to grasp the concept of ethics despite a question on this being asked in the last three Question Papers.

Section 3

- In the Applied Multimedia section Question (20) (a) was very poorly answered as the majority of candidates gave a definition of video conferencing rather than teleconferencing. Question (21) (a) was also very poorly answered. Candidates were asked to carry out an evaluation but most had difficulty with this higher order skill and did not offer an opinion or impression based on the given criteria.
- In the Expert Systems section candidates scored extremely well in Question (23) (a) - the 'rule tree' and Question (23) (b) - 'the rules', which gave a total of 16 marks.
- In the Internet section, candidates struggled with the technical questions - Question (30)(a) on the number of hosts and Question (30)(b) the gateway address. Despite this being their chosen Unit, the majority of candidates lacked the degree of technical knowledge expected at this level.

Areas in which candidates performed well

Section 1

Question (1)(b) and Question (2) (b) were well answered as candidates are beginning to grasp the technical definitions of primary and foreign keys. The cardinality Question (5) (a) was also well answered although some got confused with the relationship in part 5 (b).

Section 2

The candidates' responses to the normalisation Question (13) continue to be encouraging and the E/R diagram Question (14) was particularly well answered. Question (18) (a) (ii) was also very well answered as most candidates were able relate the concept of an online persona to a personal real life context.

Section 3

Applied Multimedia

The only question that was very well answered was question (19) (a) as most candidates knew that epilepsy was associated with special lighting effects.

Expert Systems

The 'rules' Question (23) (b) and the calculation of the certainty factor Question (28) (a) (i) were well answered.

The Internet

Only question (29) (b) (i) on the use of the title tag was reasonably well answered.

Areas which candidates found demanding

Section 1

Question (1)(a) most candidates did not give the inconsistencies that could arise if all records were not updated. In Question (7), although most candidates had an idea of what a macro was and what it did, they did not say how it could be created. In Question (8), a lot of candidates confused project management software with personal management software.

Section 2

Question (15) (e) most candidates struggled with the concept of ethics. Question (16) was extremely poorly answered as many candidates did not write about a software strategy but about an upgrade strategy or any other of the strategies that they felt they knew most about. In Question (18) (b)(ii), the majority of candidates did not realise that the individuals would need to be contacted in order to decode the message.

Section 3

Applied Multimedia

Question (19) (c) (ii) - most candidates did not have the technical knowledge required to distinguish between 'compressed' and 'uncompressed' video. In Question (21) (a), most candidates did not know that the evaluation of the screenshots required their viewpoint or opinion. Question (21) (b) was the worst answered question in the Question Paper. Candidates did not have the technical knowledge of scripting based authoring software. Question (21) (c) (iii) required two terms from the Arrangements and was very poorly answered. In Question (21) (f), candidates again did not have the necessary technical knowledge of midi files.

Expert Systems

The only question that was relatively poorly answered was Question (28) (b) as it focused on the components of an expert system which normally is well answered.

The Internet

Question (30) (a), Question (30) (b) (i) and Question (30) (b)(ii) were all very poorly answered due to the technical knowledge required on aspects such as network hosts and gateway addresses. Question (31) (a) was also poorly answered although it required two terms straight from the Arrangements.

Advice to centres for preparation of future candidates

Candidates must improve their technical knowledge particularly in their chosen optional unit. Many candidates did not have sufficient depth of technical knowledge to answer the technical questions in the detail required to achieve high marks.

Candidates must improve their knowledge of the main strategies in Using Information Unit and become familiar with all aspects of each strategy.

Candidates must refrain from covering all alternatives in an answer by giving multiple possible answers, e.g. written or visual or aural. This will be penalised.

Candidates should focus on developing the higher order skills, particularly evaluating. Questions involving an evaluation in this year's Question Paper were very poorly answered indeed.

Candidates must become more familiar with the Arrangements documents, particularly with some of the technical terms. Candidates are often asked for terms that come straight from the Arrangements.

Statistical information: update on Courses

Number of resulted entries in 2008	1484
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Number of resulted entries in 2009	1413
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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 - 200				
A	15.0%	15.0%	212	140
B	25.8%	40.8%	365	118
C	30.8%	71.6%	435	97
D	13.1%	84.7%	185	86
No award	15.3%	100.0%	216	-

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.