

## Principal Assessor Report 2003

**Assessment Panel:**

**Computing and Information Technology**

**Qualification area**

**Subject(s) and Level(s)  
Included in this report**

**Computing, Advanced Higher**

## Statistical information: update

<b>Number of entries in 2002</b>	
<b>Pre appeal</b>	439

<b>Number of entries in 2003</b>	
<b>Pre appeal</b>	478

## General comments re entry numbers

Candidate numbers appear to have stabilised somewhat after the huge rise last year. The increase, however, is encouraging and shows that more candidates are beginning to see the benefit of taking Advanced Higher Computing as part of their studies.

## Grade boundaries at C, B and A for each subject area included in the report

Upper A = 83  
Lower A = 70  
B = 60  
C = 51

### General commentary on passmarks and grade boundaries

- While SQA aims to set examinations and create mark schemes which will allow a competent candidate to score a minimum 50% of the available marks (notional passmark) and a very well-prepared, very competent candidate to score at least 70%, it is almost impossible to get the standard absolutely on target every year, in every subject and level
- Each year we therefore hold a passmark meeting for each subject at each level where we bring together all the information available (statistical and judgmental). 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 senior management team at SQA
- We adjust the passmark downwards if there is evidence that we have set a slightly more demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- We adjust the passmark upwards if there is evidence that we have set a slightly less demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- Where the standard appears to be very similar to previous years, we maintain similar grade boundaries
- 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 are different. This is also the case for exams set in centres. And just because SQA has altered a boundary in a particular year in say Higher Chemistry 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
- Our main aim is to be fair to candidates across all subjects and all levels and maintain standards across the years, even as syllabuses evolve and change

### Comments on grade boundaries for each subject area

In 2002 the grade boundaries were :

Upper A = 83  
Lower A = 70  
B = 60  
C = 51

This has remained unchanged in 2003.

The grade boundaries continue to be affected by the high impact made by the project mark which is outwith the control of the examining team or PA.

The examination was felt to be fair and in line with previous years.

Standardised 'a priori' grade boundaries were set with only a slight rise above this for the 'C' pass mark. Interestingly, there was an increase in the percentage of candidates gaining an A pass. It was felt that this was realistic as a number of markers had commented on the fact that there appeared to be better preparation by part of the cohort. These candidates were sitting at the bottom end of the A pass.

## Comments on candidate performance

### General comments

- High quality responses were noted from a few candidates and some have clearly been starting to analyse the structure of the paper from previous years. This was demonstrated by the increased number achieving an A pass.
- Candidate responses to the larger extended response questions (8 or 12 marks for example) were generally poor with a lack of technical language being used and a lot of text written with very little clear understanding of the subject matter being communicated. Candidates need to consider the structure of responses to extended questions in order to gain higher marks. One or two good examples should have a high degree of structure in the response with the use of tables and labelled diagrams.
- The majority of candidates answered question 1 as their choice in Software Development, question 4 in Artificial Intelligence, question 8 in Computer Systems and question 10 in Data Communications. This may indicate that the choice in questions is not really taken up by candidates due to the amount of reading required to make that choice.

### Areas of external assessment in which candidates performed well

Candidates performed better in Knowledge and Understanding questions where recall of facts and technical detail from each of the units was required.

#### **Software Development:**

Q1 was attempted by the majority of candidates. Most performed well in recalling the stages of the software development process. Software Development was generally better done than any of the optional units.

#### **Artificial Intelligence:**

Qs 3 and 4 were attempted by the majority of candidates. Candidates undertaking questions in this option were generally well prepared and were able to communicate more clearly than in other unit. The development of search trees was well done as was the drawing of semantic nets.

#### **Computer Systems:**

Qs 6 and 7 were attempted by most candidates. The questions on Operating Systems were clearly better understood than other areas of the unit.

#### **Data Communications:**

Qs 9 and 10 were attempted by most candidates. This option was not as well done as the others. Discussion of hardware involved in data communications was generally well done.

### Areas of external assessment in which candidates had difficulty

- The discriminating questions which involved integration, evaluation and synthesis were not attempted well.
- Use of technical language is poor by many candidates

#### **Software Development**

Candidates did not refer back to the question stem, or relate their responses to the scenario given.

**Artificial Intelligence**

In Artificial Intelligence, although the problem solving components were well done overall, areas of computer vision and expert systems were not well done.

**Computer Systems**

Candidate responses in assembly language tended to be unclear.

**Data Communications**

Very few candidates demonstrated secure knowledge in aspects of Data Communications.

## **Recommendations**

### **Feedback to centres**

- Questions relating to recall of knowledge were generally well done, but extended responses in problem solving/analytical approach were lacking in the depth required at Advanced Higher. Candidates should be encouraged to consider the structure of responses to extended questions.

#### **SOFTWARE DEVELOPMENT**

- Candidates generally responded well to the Software Development questions showing good recall of the Software Development Process.
- Application of the Software Development Process to the scenario outlined in the question paper was not well done. Candidates did not relate back to the stem of the question or apply their knowledge to the scenario.
- Very few candidates attempted Q2

#### **ARTIFICIAL INTELLIGENCE**

- Candidates undertaking questions in this option were generally well prepared and were able to communicate more clearly than in other unit.
- The development of search trees was well done as was the drawing of semantic nets.
- Very few candidates were able to name two expert system shells.
- Very few candidates attempted Q 5.

#### **COMPUTER SYSTEMS**

- Many candidates wrote large extended responses to some of the questions but failed to give an appropriate level of depth of treatment or attention to the technical detail required at this level.
- The questions on Operating Systems were better understood than other areas of the unit and candidates were able to give better responses.
- When comparing Operating Systems candidates still make trivial comparisons between Operating Systems which are not significantly different.
- Some candidates could not describe the purpose of a section of code written in assembly language. They merely restated what was given in the question stem.
- Very few candidates attempted Q 8.

#### **DATA COMMUNICATIONS**

- Very few candidates demonstrated secure knowledge in many aspects of Data Communications.
- Technical detail was often omitted from candidate responses.
- Treatment of network etiquette remains at a very trivial level
- Few candidates have a secure understanding of OSI.