SCOTTISH QUALIFICATIONS AUTHORITY

Principal Assessor Report 2003

Assessment Panel:	**Technical Education**

Qualification area

Subject(s) and Level(s) Included in this report	**Technological Studies – Higher**

Statistical information: update

Number of entries in 2002	
Pre appeal	954

Number of entries in 2003	
Pre appeal	992

General comments re entry numbers

A slight increase in numbers over 2002 was welcome, returning almost to the 2001 level.

However, 38 candidates scored less than 20%, indicating that some centres are not taking advantage of the option to transfer inadequately prepared candidates to Int2.

If these 38 candidates had not been presented at Higher, then the entry number would have been 954 – identical to 2002.

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

Grade C: 47%
Grade B: 58%
Lower A: 70%
Upper A: 85%

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

The grade boundaries applied in 2003 correspond to an increase of 6 marks at C, 7 marks at B, 8 marks at A, and 5 marks at Upper A, compared with 2002.

This is consistent with the intention on the part of the Examining Team to increase accessibility, especially for the mid-level ability candidate, and to enable the grade boundaries to be set much closer to the *a priori* than was the case in 2002.

Comments on candidate performance

General comments

Candidate scores ranged from 95% right down to 0%.

All questions were accessible, with full marks being achieved for each question.

The trend in declining performance, seen since 2000, is no longer apparent, with a slight increase in Upper A and Grade B awards, static Grade C, and almost 10% fewer No Awards.

Areas of external assessment in which candidates performed well

Questions 1, 2 and 3
Good lead-in questions, all well answered: stress/strain graphs; combinational logic; flowcharting.

Question 7
Applied electronics: operational amplifiers question was well attempted by most candidates.

Areas of external assessment in which candidates had difficulty

Question 4
System diagrams and control diagrams: an overall fail on this question. Many candidates were confused about the different types of diagram required.

Question 5
Many candidates did not select the correct transistor for the required application, and calculations were very 'hit-and-miss'. Very few candidates drew the correct symbol for a MOSFET.

Question 11
Very few candidates attempted this question – perhaps because it started with Nodal Analysis! Clearly this area of the course is still causing serious problems for candidates. Centres would be advised to try and find extra time to cover this important part of the Structures and Materials Unit.

Recommendations

Feedback to centres

Applied Electronics
Transistors still cause difficulty, and MOSFETs especially seem virtually untaught.

Systems and Control
The distinctions between system diagrams, control diagrams and block diagrams need to be clarified. Many candidates confuse the types, or offer an amalgam of types in one diagram – even part-circuit diagrams may be included. See also 'Descriptive answers' below.

Structures and Materials
The main topics of Moments and Nodal Analysis continue to cause difficulty for many candidates. Centres need to spend more time on these elements of the Structures and Materials Unit.

Descriptive Answers
Many candidates appear unable to express themselves clearly and logically when providing descriptive answers, losing significant chunks of marks as a result. Regular exercises in describing/explaining processes and/or systems, throughout the session, would help to prepare candidates for the external assessment.