

## Principal Assessor Report 2006

**Assessment Panel:**

**Technical Education**

**Qualification area**

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

**Intermediate 2 Technological Studies**

## **Comments on candidate performance**

### **General comments**

The candidates' performance indicated that the Question Paper was fair and balanced. The full range of marks was awarded in each question and overall the 2006 exam was found to be equally as accessible as Question Papers from the previous three years. For this reason the grade boundaries in 2006 remained unchanged.

Once again it was evident that those candidates taught in a discrete Intermediate 2 class significantly outperformed those who came from a bi-level group. This was particularly evident in the S4 results where candidates tended to outperform those in S5, and hence the rise in the number of S4 candidates helped to increase the A grade passes as well as the overall pass rate.

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

Questions where good performance was noted included:

- Q8, where attempted, moments was better answered than in previous years;
- Q10 (a) calculations in part (i) to (iv);
- Q11 (f) calculations involving force, pressure and area.

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

- Q3(b) theory associated with electrical circuits;
- Q4 (i) and (ii) binary and decimal numbers systems;
- Q5(a) (i) the difference between mass and weight was lost on many candidates;
- Q7 (a) (ii) reading the LDR graph;
- Q9 (a) speed calculations involving compound gear trains;
- Q9 (d) drawing a flowchart to meet a specification;
- Q10(f) (i) orientation of error detector symbol;
- Q11(e) (ii) position and orientation of uni-directional restrictor.

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

Centres may wish to emphasis the following aspects:

- Electrical circuit theory - Kirchhoff's laws and resistance in a series and parallel circuit;
- Use of ICs - TTL and CMOS characteristics, advantages of a hardwired circuit, describing an IC;
- Systems - control diagrams including the use of the error detector symbol;
- Input transducers - reading LDR graph;
- Control – developing flowcharts from a description, number systems, PBASIC language;
- Mechanical systems – calculating the velocity ratio in a compound system, and the correct use of speed control devices to restrict exhaust air in a pneumatic circuit.

## Statistical information: update on Courses

Number of resulted entries in 2005	224
------------------------------------	-----

Number of resulted entries in 2006	197
------------------------------------	-----

## 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	33.0	33.0	65	66
B	17.3	50.3	34	55
C	18.3	68.5	36	44
D	5.1	73.6	10	38
No award	26.4	100.0	52	-

### 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 arrangements evolve and change.