Principal Assessor Report 2005

Assessment Panel:	**Technical Education**

Qualification area

Subject(s) and Level(s) Included in this report	**Intermediate 2 Technological Studies**

Statistical information: update

Number of resulted entries in 2004	247

Number of resulted entries in 2005	224

General comments re resulted entry numbers

There has been a reduction of 26 candidates at Intermediate 2 this year and 6 fewer presenting centres.

The breakdown of the candidature shows that nearly 20% came from S4, over half from further education and the remainder from S5/6.

Statistical Information: Performance of candidates

Distribution of awards including grade boundaries

Distribution of awards	%	Cum %	Number of candidates	Lowest mark
Maximum Mark- **100**	-	-	-	-
A	29.0	29.0	65	72
B	18.8	47.8	42	61
C	19.2	67.0	43	51
D	5.4	72.3	12	46
No award	27.7	100.0	62	-

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.

Comments on any significant changes in distribution of awards/grade boundaries

The boundary marks for 2005 remain the same as 2004 and 2003 which reflects the fact that the standard of examination is once again unchanged.

Analysis of the data indicated that the overall number of A to C candidates has remained at a comparable level to that of 2004. There has been a slight rise in the number of A passes and an increase in B awards. As a consequence there were subsequently fewer C passes.

Comments on candidate performance

General comments

The feedback from the markers indicated that the examination was of a similar standard to 2004 and that all the questions were fair, balanced and accessible. The full range of marks was awarded in each question.

Areas of external assessment in which candidates performed well

Q3(a) completing the truth table for a given combinational logic circuit;

Q4 (a) describing the operation of a pneumatic circuit;

Q8 principle of moments including free body diagrams and calculations;

Q9 (f) to (h) energy calculations.

Areas of external assessment in which candidates had difficulty

Q2(a) candidates had difficulty calculating resistance of the parallel branch;

Q3(b) and Q9(b) many candidates were unable to state any IC characteristics;

Q9(e) candidates had difficulty explaining the operation of the closed loop control system;

Q10(b) PBASIC commands associated with for….next loops

Q11(a) and (b) many candidates could not read the graph to obtain the correct LDR resistance. A large number of candidates had difficulty with the voltage divider calculation.

Recommendations

Feedback to centres

Centres may wish to pay particular attention to the following aspects when delivering the course prior to the 2006 examination:

- Electrical circuit calculations involving resistance in a series and parallel combination;
- TTL and CMOS characteristics;
- Systems theory including the explanation of closed loop control featuring error detection;
- Input transducers – reading LDR graph;
- Voltage divider calculations;
- for…..next loops in PBASIC.