

## Principal Assessor Report 2006

**Assessment Panel:**

**Physics**

**Qualification area**

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

**X119 Applied Practical Electronics Intermediate 1**

## **Comments on candidate performance**

### **General comments**

The number of centres presenting candidates has decreased from 7 to 6 this session. It is known that other centres are delivering the award but the final project completion date coincides with study leave for Highers and other courses deemed to be more mainstream and candidates are subsequently withdrawn. It is also known that FE colleges are offering individual course units as part of an engineering group award but are reluctant to offer the whole award due to the May completion date as most FE programmes continue through until the end of June. There are still no school/college partnership candidates, which is disappointing as this was one of the reasons for the development of the course.

Centres that continue to offer the award are gaining more experience and the work of candidates continues to improve. As well as being practical in nature, the course should give candidates exposure to Problem Solving techniques and could prove valuable to a wide range of candidates.

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

Candidates enjoy most of the practical elements of the course, especially since the introduction of a second project which gives centres greater scope to match the skills acquired on this course to other elements within the curriculum. Candidates particularly appear to enjoy the construction and testing part of the project. These practical skills such as soldering will be new to many school candidates and these candidates would benefit from more experience in these practical areas in order to improve such practical hands-on engineering skills. It may stimulate interest in engineering as a career choice.

## **Areas which candidates found demanding**

Candidates find the initial planning and software simulation stages demanding and also appear to have difficulty with the test and evaluation stages. This is probably to be expected at the Intermediate 1 stage. With both projects, candidates experienced difficulties with the layout of the circuit stripboard, which is relatively complex. This resulted in candidates having further difficulty with the accuracy and neatness of the circuit soldering and circuit implementation. Testing also proved difficult for candidates due to complexity of the circuit, at this level. Most candidates received assistance with these stages.

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

The 2 projects available should give most schools and FE colleges scope to match the course contents to other elements of the curriculum. The circuitry involved in each project means that the stripboard layout, soldering, circuit implementation and testing of the final circuit can be difficult for candidates. Candidates enjoy the practical aspects of the course and would benefit greatly from more experience in these areas. As candidates appear to struggle with the planning stage and final evaluation stage, it may be that more assistance is offered in these areas.

Some centres would wish further clarification with regards to the marks allocation for the following 3 sections:-

Functionality of the project (20 marks)

Value of the project (15 marks)

Complexity of the project (15 marks)

This may be something that SQA might wish to consider for future sessions

## Statistical information: update on Courses

|                                    |    |
|------------------------------------|----|
| Number of resulted entries in 2005 | 57 |
|------------------------------------|----|

|                                    |    |
|------------------------------------|----|
| Number of resulted entries in 2006 | 55 |
|------------------------------------|----|

## 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                             | 45.5 | 45.5  | 25                   | 140         |
| B                             | 20.0 | 65.5  | 11                   | 120         |
| C                             | 10.9 | 76.4  | 6                    | 100         |
| D                             | 0.0  | 76.4  | 0                    | 90          |
| No award                      | 23.6 | 100.0 | 13                   | -           |

### 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.