



External Assessment Report 2011

Subject	Electrical Installation Fundamentals
Level	Intermediate 2

The statistics used in this report are pre-appeal.

This report provides information on the performance of candidates which it is hoped will be useful to teachers/lecturers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding. It would be helpful to read this report in conjunction with the published question papers and marking instructions for the Examination.

Comments on candidate performance

General comments

Summer 2011

There were 67 entries for the summer diet of the Electrical Installation Fundamentals Intermediate 2 project compared with 43 in 2010. This is a rise in entry numbers of 56% between summer 2011 and summer 2010. Six centres submitted entries for the 2011 summer diet compared with five in 2010.

No pass-mark meeting was held for the Electrical Installation Fundamentals Intermediate 2 award in 2011. Pass-mark meetings take place every three years and there was a meeting in 2010. The same grade boundaries apply for the two years following a pass-mark meeting

The pass rate for the 2011 summer diet of candidates was 91% compared with 86% in 2010 and 63.4% in 2009. The mean mark in 2011 was 125.4 (the total mark for the project is 200) compared with 119 in 2010 and 98.5% in 2009. It is worth noting that the pass rate and mean mark in 2009 were significantly lower than they might have been because all candidates from one centre failed the project. This centre did not present candidates for the 2010 and 2011 examination diets. The pass rate for the Electrical Installation Fundamentals Intermediate 2 project is now very good and centre staff should be congratulated for achieving such a high level of success.

The average scores in each of the three stages of the project in the summer 2011 diet were as follows: Planning — 27.6/40, Development — 78.4/120 and Evaluation — 19.4/40. A comparison with the previous three years' average marks reveals that the average mark for the Planning stage was at its highest level in 2011 as was the average mark for the Development stage. The average mark for the Evaluation stage in 2011 at 19.4/40 is only slightly less than the highest average mark achieved for this stage of 19.5/40 in 2010. However, it does have to be noted that this average mark is still less than 50% of the total mark for this stage. As noted in the 2010 External Assessment Report, the Evaluation stage remains the weakest component of the three stages in the Electrical Installation Fundamentals project.

2010–11

Of the 90 candidates presented in 2010–11, 17.8% of candidates achieved a Grade A, 40.0% of candidates achieved a Grade B, and 22.2% achieved a Grade C. The corresponding figures for 2009–10 were 18.6% of candidates achieved Grade A, 23.3% achieved Grade B, and 44.1 % achieved a Grade C. A comparison of the 2011 and 2010 figures indicate that although the overall pass rate has fallen from 86% to 80% the percentages of Grade B and Grade C passes have changed with Grade B passes almost doubling. The corresponding Grade C passes in 2011 fell by nearly 22% compared with 2010.

Areas in which candidates performed well

As noted in previous years, and confirmed by the average marks, most candidates do the Development stage well. Candidates continue to identify the key hazards involved in undertaking the garage or workshop projects and take steps to minimise these hazards. However, some candidates continue to fail to make an effective assessment of the relative risks of the hazards.

Most candidates provide a comprehensive stock list. It is pleasing to report that many candidates identified more electrical installation good-practice points this year than in previous years. The testing part of the project is normally detailed with candidates giving accurate information on the expected results from various tests. However, some candidates do miss a test and/or get the sequence of tests in the wrong order. Most candidates provide detailed diagrams of earthing arrangements for their project.

In the Planning stage, most candidates explained why they preferred to do the workshop project rather than the garage project and vice versa. However, as noted in the 2010 External Assessment Report, it would be good to read positive rather than negative reasons into why candidates chose one project over the other (eg 'Because I want to learn more about such and such'). It is also apparent that candidates are being encouraged to use different sources of information, including the internet, when undertaking their projects.

In the Evaluation stage, most candidates identify the technical skills they have developed while undertaking their project.

Areas which candidates found demanding

As in previous years, the project Markers have identified various areas that candidates continue to find difficult. Some of these areas are shown below:

Planning stage

- ◆ Many candidates do not define the aims and objectives of their project clearly.
- ◆ As noted in previous reports, some candidates do not detail all the stages of the project (eg inspection and testing).
- ◆ Some candidates fail to include the mechanism they are going to use to monitor progress in the project.

Development stage

- ◆ As highlighted in previous reports, some candidates do not make an effective risk assessment of the hazards they identify for the garage or workshop project.
- ◆ Most candidates do not provide circuit diagrams for lighting and power circuits. Again, this has been identified previously.
- ◆ Many candidates fail to detail the source(s) for earthing information.

Evaluation stage

- ◆ As in previous years, evaluations tend to be quite narrowly focused with candidates often repeating at some length what they have done in the project. Candidates do not question the project planning sufficiently. For example, it appears that almost all projects go exactly according to plan. Also, few candidates comment on how project planning and development can be improved.
- ◆ Most candidates focus heavily on how their technical skills have improved as a result of undertaking the project but fail to mention how other skills such as communication, health and safety, investigation, information technology, problem solving and working with others skills have developed.

Advice to centres for preparation of future candidates

General

It is good to report that centres continue to employ their own marking schemes when assessing candidate work. However, some centres should consider reviewing these marking schemes with a view to clarifying more precisely how they allocate marks to each stage of the project. Centres are referred to the Course Arrangements documentation for further guidance on how to make their own marking schemes more precise and robust.

Centres should ensure that candidates include the aims and objectives of the workshop or garage project in the Planning stage. This should help in writing up the report in the Evaluation stage. Centres should also get candidates to record progress throughout the project, as this will also help when writing the evaluation report. A few centres are now using a simple logbook to record progress throughout the project.

As highlighted in previous years, centres should also get candidates not only to identify the nature of hazards associated with their projects but also to assess the level of risks associated with these hazards. This is important but it is not always evident that a risk assessment has been carried out. Candidates should also produce circuit diagrams, as well as wiring diagrams, for the lighting and power circuits.

Candidate weakness in writing evaluation reports has been identified in a number of external assessment reports. Writing in an evaluative way is not something that comes naturally to candidates. The Principal Assessor believes it is a skill that must be taught. In terms of writing their evaluation report candidates may be asked to think about the following questions:

- ◆ How well has the project gone?
- ◆ How were any problems dealt with?
- ◆ Was the work carried out to schedule?
- ◆ Did any changes have to be made to the original work plan?
- ◆ How could the planning process be improved?
- ◆ What additional knowledge and skills have you gained from doing the project (not just technical skills but personal skills as well)?
- ◆ What other questions could have been asked at the planning stage?

The standard of English in reports continues to improve but there is still scope for considerable improvement. Lecturers are encouraged to identify spelling and grammatical errors in candidate work and to ask for these to be corrected.

Statistical information: update on Courses

Intermediate 2

Number of resulted entries in 2010	68
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Number of resulted entries in 2011	90
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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	17.8%	17.8%	16	140
B	40.0%	57.8%	36	120
C	22.2%	80.0%	20	100
D	4.4%	84.4%	4	90
No award	15.6%	100.0%	14	-

General commentary on grade boundaries

While SQA aims to set examinations and create marking instructions which will allow a competent candidate to score a minimum of 50% of the available marks (the notional C boundary) and a well prepared, very competent candidate to score at least 70% of the available marks (the notional A boundary), it is very challenging to get the standard on target every year, in every subject at every level.

Each year, therefore, SQA holds a grade boundary meeting for each subject at each level where it brings together all the information available (statistical and judgemental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Head of Service and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the management team at SQA.

The grade boundaries can be adjusted downwards if there is evidence that the exam is more challenging than usual, allowing the pass rate to be unaffected by this circumstance.

The grade boundaries can be adjusted upwards if there is evidence that the exam is less challenging than usual, allowing the pass rate to be unaffected by this circumstance.

Where standards are comparable to previous years, similar grade boundaries are maintained.

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, and the mix of questions, are different. This is also the case for exams set in centres. If SQA has already altered a boundary in a particular year in say Higher Chemistry this 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.

SQA's main aim is to be fair to candidates across all subjects and all levels and maintain comparable standards across the years, even as Arrangements evolve and change.