



External Assessment Report 2009

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

There were 41 entries for the summer diet of the Electrical Installation Fundamentals Intermediate 2 project. This number compares favourably with the equivalent diet in 2008. There were also 11 entries earlier in 2009. One new centre submitted entries for the 2009 summer diet. While there has been a growth in the number of candidates entering the Electrical Installation Fundamentals Intermediate course it is still the Principal Assessor's recommendation that SQA actively promote the Electrical Installation Fundamentals course to employers, candidates and other stakeholders of the award.

A pass mark meeting for project based courses only takes place once every three years (the next meeting is due in 2010) so only limited statistical data was available to inform this Report. The pass rate for the 2009 summer diet of candidates was 56.2%. The mean mark was 98.5 (the total mark for the project is out of 200). Nearly forty percent of candidates sitting the Electrical Installation Fundamentals Intermediate 2 project in the summer diet achieved a Grade B. Approximately 15% achieved a Grade A and 10% a Grade C.

It is worth noting that the pass rate and mean mark were significantly lower than they might have been because all candidates from one centre failed the project. This centre used an entirely different project from the two projects given in the course document with the consequence that candidates failed to satisfy many of the assessment criteria in the course documentation. It is hoped that a development visit can be arranged with this centre to clarify issues regarding course arrangements.

On a positive note there were clear improvements in the presentations from one centre as result of a development visit to the centre that took place during session 2008/09.

The Development Stage continues to be done well by most candidates. The Planning Stage is done fairly well by most candidates although most candidates continue to fail to specify the aims and objectives of the project clearly or describe the mechanism for recording progress throughout the project. The Evaluation Stage continues to prove challenging to most candidates.

The standard of English in reports continues to have improved although there is still scope for further improvement.

Areas in which candidates performed well

As noted in the previous section most candidates do the Development Stage well. Candidates continue to identify the key hazards involved in undertaking the garage or workshop projects and 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. 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 the project they were doing although they seldom detailed the source of information for these arrangements.

In the Planning Stage most candidates explained why they preferred to do the workshop project rather than the garage project and vice versa. However, in future it would be nice to read positive rather than negative reasons why candidates chose one project over the other (e.g. 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 project.

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 assessors have identified various areas that candidates continue to find challenging. Some of these areas are shown below:

Planning Stage

- Most candidates do not define the aims and objectives of the project clearly.
- Some candidates continue not to detail all the stages of the project (e.g. inspection and testing).
- Most candidates are unrealistic in the timescales they present for the stages of the project.
- Some candidates fail to include the mechanism they are going to use to monitor progress in the project.

Development Stage

- As mentioned in the previous section some candidates continue not to make an effective risk assessment of the hazards they identify for the garage or workshop project.
- Most candidates continue not to provide circuit diagrams for lighting and power circuits.
- Most candidates continue to identify only a limited number of good practice points.

Evaluation Stage

As in previous years evaluations tend to be quite narrowly focussed with candidates often repeating what they have done in the project. Candidates do not question the project planning and development processes sufficiently. For example, it appears that almost all projects go exactly to plan. There is little 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. Given the recurring problems that have arisen with the Evaluation section over a number of years, it continues to be the PA view that SQA should support the development of good case study materials to support centre delivery of this section.

Advice to centres for preparation of future candidates

It is pleasing to report that most centres continue to employ their own fully developed marking scheme when assessing candidate work which helps to ensure consistency of standards. The PA's fellow external assessor has developed a very useful marking scheme which has helped to ensure consistency in external moderation.

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. Lecturers/teachers should also encourage candidates to include realistic estimates of the time each activity will take at the Planning Stage. This would then allow candidates in their evaluation reports to compare these estimates with the actual times spent on activities. Centres should also get candidates to record progress throughout the project as this will help in the evaluation report. One centre has introduced a simple log book 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.

Candidates should also produce circuit diagrams, as well as wiring diagrams, for the lighting and power circuits. Centres should also encourage candidates to identify more good practice electrical installation points as part of their garage or workshop project.

While it is recognised that the Evaluation section is probably the most difficult part of the course to do the PA believes that centres should challenge candidates more in terms of getting them to answer such questions as: How could the planning process be improved? How are you going to evaluate the success of your project? What additional knowledge and skills have you gained from doing the project (not just narrow technical skills but wider personal skills) and what other questions could have been asked at the planning stage?

Lecturers/teachers are encouraged to correct poor spelling and grammar.

Statistical information: update on Courses

Number of resulted entries in 2008	62
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Number of resulted entries in 2009	89
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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	16.9%	16.9%	15	140
B	28.1%	44.9%	25	120
C	11.2%	56.2%	10	100
D	0.0%	56.2%	0	90
No award	43.8%	100.0%	39	-

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 SQA therefore 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 Business Manager 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.