External Assessment Report 2015

Subject(s)	Electrical Installation Fundamentals
Level(s)	Intermediate 2

The statistics used in this report are prior to the outcome of any Post Results Services requests

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

Two centres presented candidates for the 2015 examination diet. This compares with four centres in 2014 and 2013, and five in 2012. All entries into the Electrical Installation Fundamentals Intermediate 2 award in 2015 were from further education colleges, as has been the case since the qualification was first offered.

In 2015, it is pleasing to report that all candidates achieved an A to C grade pass. The various grades in the 2015 Examination are shown at the end of this report.

The grade distribution shows a general improvement in candidate project portfolios in 2015. Nearly 20% of candidates produced work of a higher quality, meriting a Grade B pass. A few candidates produced project portfolios of even higher quality, thus achieving a grade A pass, although it has to be noted that Markers did not see any outstanding project portfolios.

Even with the small numbers of entries involved over the last four years, candidate performance has steadily improved since 2012. The most significant and gratifying improvement, particularly in 2015, is in the Evaluation component. It was clearly evident from reading evaluations this year that centres had taken on board the advice given on this component in previous external assessment reports. Candidates' demonstrated 'thinking out of the box' approach this year.

Areas in which candidates performed well

Planning Component

Most candidates made some attempt to define the aims and objectives of their project although there is still scope for greater clarity when defining these.

Timescales for completing the work on the garage or workshop were, in most cases, realistic.

Development Component

Risk assessments prepared by candidates generally identified the main hazards that are likely to occur when undertaking the electrical installations in the garage or workshop. Control measures to manage the hazards were also included in risk assessments. However, some candidates still do not make an assessment of the level of risk involved with each of their hazards.

Some candidates had produced their site plan using CAD facilities, and these drawings tended to be clearer.

Most candidates produced detailed and accurate materials lists.

Many candidates identified up to 10 good practice points although there is still scope to identify even more good practice points (ie 15).

Earthing requirements for either the garage or workshop installations were generally accurately identified.

Most candidates identified at least three out of the four correct tests to conduct on their electrical installation and also managed to get these tests in the correct sequence. Test results were normally also accurate.

Evaluation Component

Most candidates indicated that their project had been successful and also identified what steps they had taken to overcome any problems they encountered in their project. This helped to give the candidates an appreciation that project work seldom goes to plan.

Unlike in previous years, candidates spent less time in their evaluative reports restating what they have done in the project. Candidates were more prepared not only to identify the practical electrical installation skills they had learned as a result of doing the project, but were also willing to identify other skills they had developed such as information and communication skills when, for example, preparing their materials list, communication skills when gathering the information that goes into their portfolio etc.

Candidates were more willing to challenge the initial planning process, for example asking such questions as ‘How could the planning process have been improved?’ ‘Were there other questions that I could have asked the client at the initial planning stage?’ and, more generally, ‘Were there other questions that could have been asked during project planning and development?’

Areas which candidates found demanding

Planning Component

The rationale for choosing the garage project over the workshop project or vice versa is still, in general, written in negative terms. It would be good to see candidates choosing one project over the other because they want to challenge themselves more and/or learn something new. It is also interesting to note that the large majority of candidates choose the garage project over the workshop project.

Most candidates still do not identify their method for recording progress and as a result lose a significant number of marks in this section.

Development Component

As in previous years many candidates do not put in circuit diagrams of 1 way/2 way lighting circuits or radial/ring circuits.

Some candidates left out the cable routes on their site plans.

Some candidates left out the section on cable sizes/rating of protective devices.

Some candidates missed the Continuity of ring final circuit test. Some candidates did not get the correct sequence of tests.

Evaluation Component

Candidates often do not mention if all work had been carried out to schedule (an obvious point to comment on).

Advice to centres for preparation of future candidates

This is the last year that the Electrical Installation Fundamentals Intermediate 2 qualification is going to be offered as a PBNC. In future years it will be available as a National Progression Award (NPA) at SCQF level 5. The new award will remain project-based and the technical content will be broadly the same as in the Intermediate 2 award.

With its conversion to an NPA it is, perhaps, important to reflect on the lessons learned from delivering the Electrical Installation Fundamentals Intermediate 2 qualification over the last 15 years or so.

It is important to start by stressing that in any project candidates are expected to apply the knowledge, understanding and skills they have gained in individual Units making up the award (such as the Electrical Installation Fundamental award). While the lecturer should provide the appropriate information and guidance for the project, candidates should be expected to undertake much of the project on their own initiative. There have been some indications over the years that some centres have delivered the project as a classroom activity in which candidates complete a section or sections of the project every week. Gaps in some candidate project work may be due to them being absent from class in certain weeks. This classroom-based approach is not best practice. Every encouragement should be given to candidates to undertake project work on their own initiative.

Over the years it has been found that while candidates have been able to identify the various hazards associated with the garage or workshop projects, few candidates have demonstrated an ability to assess the level of risk of each hazard. In effect, they have been producing incomplete risk assessments. The system for assessing risk does not have to be complex. It could be based on a simple Low, Medium and High categorisation. The important point is that candidates are encouraged to engage in the full risk assessment process, as this will enhance their knowledge and understanding of this critical health and safety process.

Centres should continue to monitor carefully the level of plagiarism and collusion that may take place. It has not been uncommon over the years for markers to see in a number of candidates' reports the same diagrams and explanations regarding topics such as earthing systems. Whilst candidates may obtain information from the same source, they should be encouraged to express this information in their own words rather than simply copying and pasting diagrams and texts from the Internet.

Some candidates miss out whole sections of the Development component. In some instances, candidates did some sections of this component very well while entirely missing out other sections, with the result that they did not obtain as high a mark as they could have done. If not already doing so, centres should emphasise to candidates the importance of completing every section in the Development component.

Evaluation is not a process that most candidates find easy to do, especially if they do not have good English language skills. It is recommended that candidates are provided with practice sessions on evaluative thinking and writing before they undertake the report for the Evaluation component.

In 2015, there was an improvement in the quality of spelling and grammar in some candidates' project portfolios. While the Electrical Installation Fundamentals Intermediate 2 project is not meant to be a test in English language, centres should consider providing the necessary information, advice and support, where required, to help candidates improve the spelling and grammar in their portfolios.

Statistical information: update on Courses

Number of resulted entries in 2014	79

Number of resulted entries in 2015	52

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	11.5%	11.5%	6	140
B	69.2%	80.8%	36	120
C	19.2%	100.0%	10	100
D	0.0%	100.0%	0	90
No award	0.0%	-	0	-

For this Course, the intention was to set an assessment with grade boundaries at the notional values of 50% for a Grade C and 70% for a Grade A (as has been the case in recent years).

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.