



External Assessment Report 2015

Subject(s)	Product Design
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

The Course Assessment for Intermediate 2 Product Design consists of two equally-weighted components:

Question Paper - 50 marks

Design Assignment - 50 marks

In both parts of the assessment, candidate performance in 2015 was broadly similar to previous years. There were, however, proportionally fewer candidates scoring highly in Section 2 (Development) of the Design assignment.

Areas in which candidates performed well

Question paper

The main pitfalls that candidates found were in Q 2, 3, 4 and 6:

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| Question 2 | candidates averaged 4 out of 6 for this question. A surprising number of candidates were extremely vague regarding evaluation techniques. |
| Question 3 | candidates averaged 4 out of 6 for this question. Many candidates simply repeated their responses for part (a) once again in part (c). |
| Question 4 | candidates averaged 4 or 5 out of 7 for this question. Many candidates were unable to suggest a suitable non-ferrous metal. Candidates were similarly vague regarding jointing methods for the steel. |
| Question 6 | candidates averaged 3 out of 5 for this question. Candidates gave vague and imprecise definitions of Intellectual Property. Others gave vague responses regarding Market Research. |

Design Assignment

The Design Assignment Guidance is available from SQA's website. It gives clear information regarding how the Design Assignment is marked.

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| Section 1 | 10 marks |
| Section 2 | 20 marks |
| Section 3(a) | 10 marks |
| Section 3(b) | 5 marks |

Section 3(c) 5 marks

Candidates performed best in Section 1 and Section 3(c).

Section 1 Initial Ideas

Candidates tended to score 8, 9 or 10 out of 10. This is probably attributable to the general enthusiasm for a new activity combined with a realisation that this task will be contributing to their final mark.

If candidates were too specific in this section, it made it more difficult to expand upon their initial ideas and develop them later on.

Section 3(c) Communication of design proposal

Candidates tended to do well in this section, with work in this category regularly attracting 4 or 5 marks out of a possible 5.

More and more candidates were able to enhance their work in this section with computer graphics and, provided the projection or viewpoint is chosen wisely, most candidates using CAG software scored 4 or 5 marks.

Areas which candidates found demanding

Question paper

Question 1: candidates averaged 11 out of 20 for this question.

Question 1(b) Historically, candidates tend to get confused between these three aspects of ergonomics, and this year was no exception. This continues to be surprising as the format of this part, question 1(b), has been virtually unchanged for over ten years. Similarly, some candidates confused Anthropometrics with Aesthetics, resulting in a low score for this topic.

(i) Anthropometrics: This part of the question requires the candidate to respond by linking a suitable human dimension to an appropriate part of the illustrated product. They should do this **twice**. A significant number only did this **once** and responses thus attracted only one mark.

(ii) Physiology: This part of the question requires the candidate to respond by linking a suitable human activity (usually a verb — lifting, pressing, twisting, etc) to an appropriate aspect of the illustrated product. They should do this **twice**. Again, a significant number only did this **once** and responses thus attracted only one mark.

(iii) Psychology: Too many candidates responded with purely **aesthetic** comments about the product rather than **psychological**. Few of these aesthetic comments attracted a single mark, let alone two marks. The best responses were those that referred to some kind of sensory back-up, eg '...the button clicks into place, letting the user know that it is pressed properly etc ...'

Question 5 - candidates averaged 2 or 3 out of 6 for this question. Candidates gave vague responses to this question, hence the relatively low score. *Ease of maintenance* usually got an 'easy to clean' response. *Standard Components* was an unknown term for many candidates. Contrast regularly obtained a response that the grill was two-tone or black & white but nothing more.

Design Assignment

Candidates found Sections 2, 3(a) and 3(b) most demanding.

Section 2, Design Development, is the section that seems to give candidates the most difficulty. Candidates are supposed to make alterations to one (or two) of their initial ideas, in order to let it gradually evolve into a final Design Proposal.

Candidates would be expected to change the shape and form of the concept as well as make suggestions for alternative materials and methods of construction.

The poorest Assignments showed virtually no evolution of the product from Initial Idea through to final Design Proposal.

Many Assignments made no reference to either the researched images or the anthropometric data that is included in the Design Assignment task published by SQA. This is given to assist candidates with the task, but also to give them the opportunity of gaining some reward for its appropriate use. It's all there for a reason and it would not be inappropriate for teachers to give candidates some guidance that they should use this data.

Section 3(a), Communication, gives candidates the opportunity to gain marks for communicating clearly. If the work flows, is easy to follow and easy to read with high quality graphics, it is likely to score highly. Similarly, if it is unambiguous and lacking confusion and contradiction, it should do well.

Section 3(b), Decisions, is done very well by some candidates and very poorly by others. Candidates are expected to give some justification for the statements they make.

Candidates write things like: 'This could be made of mild steel as it doesn't rust'. Unfortunately this loses out in two ways:

- ◆ It is factually incorrect as mild steel does rust.
- ◆ The candidate isn't actually making a decision as they are saying that it **could** be made from mild steel, not that it **should** be or that it **must** be.

If they had written: 'This **should** be made from **stainless** steel as it doesn't rust', that would clearly score a mark. Decisions have to be positive statements, not **could** be or **might** be or **may** be, and have to be factually correct. Do this, **clearly**, five times in order to score 5 marks.

Statistical information: update on Courses

Number of resulted entries in 2014	885
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Number of resulted entries in 2015	96
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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 - 100				
A	33.3%	33.3%	32	73
B	37.5%	70.8%	36	63
C	13.5%	84.4%	13	53
D	6.3%	90.6%	6	48
No award	9.4%	-	9	-

The Course assessment functioned as intended, therefore no adjustment to grade boundaries was required.

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.