



Course Report 2015

Subject	Design and Manufacture
Level	Higher

The statistics used in this report have been compiled before the completion of any Post Results Services.

This report provides information on the performance of candidates which it is hoped will be useful to teachers, lecturers and assessors 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 assessment and marking instructions for the examination.

Section 1: Comments on the Assessment

Component 1: Question paper

The question paper consists of two sections totalling 70 marks and was structured in the same way as the published specimen question paper (SQP) and exemplar question paper (EQP). The question paper incorporated a mixture of short response and extended response type questions.

The question paper performed in line with expectations, and feedback from the marking team suggested that it was fair in terms of course coverage and overall level of demand.

Component 2: Assignment

The Assignment for Higher Design and Manufacture was allocated a total of 70 marks. A bank of Course Assessment Tasks was set by SQA, assessed by centres and subject to external verification by SQA. All tasks performed well and allowed candidates to access full marks. All tasks also generated a wide range of responses and marks.

Section 2: Comments on candidate performance

Component 1: Question paper

Candidate performance throughout the question paper was generally of a good standard.

Component 2: Assignment

Candidate performance was as expected with the tasks allowing a wide range of responses.

Section 3: Areas in which candidates performed well

Component 1: Question paper

Candidates performed well in questions 1, 3 and 4.

Question 1

- a) Answered well by most candidates. To obtain full marks candidates should avoid duplication and explain six different properties of the materials given.
- b) Answered well by most candidates.
- c) Answered quite well. Some candidates mixed up physiology and psychology in their answer, but were not penalised if their descriptions were correct.

- d) Answered well by most candidates.
- e) Answered quite well. Some candidates described benefits for the consumer/end user for this question rather than benefits for the manufacturer.

Question 2

- b) Answered quite well.

Question 3

- a) Answered well by most candidates.
- b) Answered well by most candidates.
- c) Answered very well by most candidates.
- d) Answered well by most candidates.

Question 4

- a) Answered well, though some candidates did not read the stem of the question properly and thought the product was for charging radios rather than a tool charger with a radio built in.
- b) Answered well. Many candidates did not explain how anthropometrics had been considered in the design of the product but merely mentioned 'size of handle', 'size of buttons'. This is not sufficient to be awarded marks for this question. Incorrect use of percentiles was ignored for the purposes of this question.
- c) Answered well by most candidates.
- d) Answered very well by most candidates. Candidates clearly understood the benefits of a strong brand image.

Question 5

- a) Answered quite well. Many candidates did not describe how market research could be carried out. Some candidates suggested evaluation methods that could only be carried out after manufacture of the product and not before the brief was finalised.
- b) Answered well by most candidates.

Component 2: Assignment

Candidates generally produced good evidence for Section 1: Generating Ideas.

A significant number of candidates produced very good evidence for Section 3: Applying Graphic Techniques.

Section 4: Areas which candidates found demanding

Component 1: Question paper

Candidates had difficulty with questions 2(a), 2(c), 5(c) and question 6 as detailed below.

Question 2

- a) Answered poorly. Many candidates answered this question based on benefits of plastic laminates when the question clearly asks for benefits of laminated wood.
- c) Answered poorly. Many candidates did not respond to this question.

Question 5

- c) Answered poorly. Many candidates stated the name of idea generation techniques, but did not say how they would be used to generate ideas. Better use could have been made of sketches to illustrate answers.

Question 6

Question 6 was answered poorly. This question was designed to assess candidates' understanding of all aspects of aesthetics and how it influences the design of products.

There was a wide range of responses to this question. Some candidates managed to explain aesthetics well using good examples to illustrate their points. However, many candidates struggled to stay focused on aesthetics and, as a consequence, the points made were very generic in nature and did not demonstrate a good understanding of aspects of aesthetics.

Component 2: Assignment

A significant number of candidates carried out very little exploration or refinement, simply making very minor changes to one of their initial ideas. This impacted on marks for Sections 2–6.

Section 2: Exploring and Refining Ideas. A significant number of candidates simply described how they were going to make one of the initial ideas and carried out very little exploration or refinement.

Section 3: Applying Graphic Techniques. Although a significant number of candidates demonstrated excellent graphic skills, the range was often limited because very little exploration and refinement had taken place.

Section 4: Applying Modelling Techniques. Demonstration of modelling skills was often limited because very little exploration and refinement had taken place.

Section 5: Applying Materials and Processes. There was often very superficial application of knowledge of materials and processes.

Section 6: Applying Knowledge and Understanding of Design Issues. Again, there was often very superficial application of knowledge of design issues.

Section 5: Advice to centres for preparation of future candidates

Component 1: Question paper

Assessors are advised to use the exemplar materials (for example, specimen/exemplar question papers and marking instructions) which are available on the SQA website, when preparing candidates for the examination.

Preparation for the question paper should also include training in examination techniques and in producing acceptable responses to questions. Many candidates are not *describing* or *explaining* their answers in sufficient detail for a question paper at Higher level. Candidates will continue to struggle to produce extended answers in the question paper if they have not been used to doing this. They should be encouraged to discuss and debate to enable them to acquire a technical vocabulary that will enable them to produce acceptable answers to questions in the question paper.

The Course Assessment Specification contains a section titled *Further mandatory information on course coverage*. This section lists all the available areas of sampling for production of the question paper. Assessors are advised to familiarise themselves with the mandatory content to prepare candidates to respond to these areas of questioning.

Component 2: Assignment

Candidates should apply the skills they have gained in the Units. In particular, they should:

- ◆ Use idea generation techniques to ensure that they access full marks in Section 1.
- ◆ Be able to explore and refine ideas. In doing so they are required to apply modelling and graphic techniques and knowledge of materials, processes and design issues, resulting in enhanced marks for Sections 2–6.

Exemplification of Higher Assignments can be found in the Understanding Standards section on SQA's secure website.

Statistical information: update on Courses

Number of resulted entries in 2014	0
Number of resulted entries in 2015	2224

Statistical information: Performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark - 140				
A	18.7%	18.7%	416	102
B	23.7%	42.4%	526	88
C	26.0%	68.4%	579	74
D	12.1%	80.4%	268	67
No award	19.6%	-	435	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.

The question paper was to standard, however it was felt that, as a consequence of the application of the marking instructions of the course assignment, that demand had been eased in this area, so therefore, a 4 mark shift was needed to be reflected in the Upper A, A and C boundaries.

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.