



Course Report 2016

Subject	Design and Manufacture
Level	National 5

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 assessment. 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 documents and marking instructions.

Section 1: Comments on the Assessment

Component 1: question paper

The question paper for Design and Manufacture consisted of two sections totalling 60 marks:

- ◆ Section 1 examined materials and manufacturing processes in a workshop setting. All of the questions in this section centred around one product which this year was a decorative wind chime, with a section total of 24 marks.
- ◆ Section 2 examined knowledge and understanding of design issues and commercial manufacturing within a framework of four individual questions, each with a different focus. Section 2 totalled 36 marks.

The question paper performed well, with the level of demand as expected. Further details of specific demand levels of individual question performance will be addressed later in this report.

Component 2: assignment

The Assignment for Design and Manufacture was allocated a total of 90 marks; design skills (45 marks) and practical skills (45 marks). Tasks for the Assignment were set by SQA, assessed by centres, and subject to external verification by SQA. Candidates undertook one task from a bank of three.

All tasks performed well and allowed candidates to access the full range of marks. All tasks also generated a wide range of responses and marks.

Section 2: Comments on candidate performance

Areas in which candidates performed well

Component 1: question paper

Candidate performance throughout the question paper was generally of a good standard. There were several areas of questioning that were answered very well by candidates. These included question 1, where performance throughout was mostly of a very good standard.

In Section 2, Question 2(b) was answered well, which continues the theme of sustainability performing well in recent examinations in this subject. Question 4(d), was also answered well by most candidates, showing candidates' understanding of branding and the associated benefits.

- ◆ Question 1 (a) (i), 1 (a) (ii), 1 (b) (i) and 1 (b) (ii) were answered correctly by almost all candidates.
- ◆ Question 1 (c) was answered correctly by most candidates. The properties of beech are clearly well known by candidates.
- ◆ Question 1 (e) (i) was answered correctly by most candidates. The italicised prompt assisted candidates who used the graphic to show their answer.
- ◆ Question 1 (e) (ii) was answered correctly by almost all candidates, showing a clear understanding of the benefits of varnish.

- ◆ Question 2 (b) was answered correctly by most candidates, showing a clear understanding of the environmental impact of decisions by designers.
- ◆ Question 4 (a) was answered correctly by almost all candidates, showing a clear understanding of the benefits computer generated modelling.
- ◆ Question 4 (d) was answered correctly by almost all candidates, showing a clear understanding of the benefits of branding.

Component 2: assignment

Most candidates produced good evidence in Section 1, Ideas.

Section 3, Communication, was generally well done, with a number of candidates demonstrating strong graphic skills.

Section 4, Evaluation, was also generally well done.

All section of Practical were generally well done.

Areas which candidates found demanding

Component 1: question paper

Question 2 (c) (i): Most candidates found this question demanding, and there were a significant number of 'no responses'. The accepted response was 'die casting', which is given in the Course Assessment Specification. With this in mind, centres would be well advised to cover this process through learning and teaching activities.

Question 3 (b) (i) & (ii): The majority of candidates found these questions demanding. Both areas are named in the Course Assessment Specification (from which examiners draw question sources), and therefore the overall lower mark average suggests that centres are perhaps not covering some of these areas with candidates prior to the examination.

Component 2: assignment

Section 2, *Development* was generally weak, with many candidates producing very little evidence of exploration.

Section 3: Advice for the preparation of future candidates

Component 1: question paper

It would be good practice to become familiar with the relevant marking instructions, which are published annually on SQA's website. This is the third live question paper for Design and Manufacture at National 5 level and question trends will undoubtedly emerge. The question styles will remain similar with further sampling of the mandatory content in the Course Assessment Specification over the coming years.

It would be considered 'good practice' to ensure candidates respond in sentences rather than single word responses. Single word answers can attract marks where the command

word is 'State', but where 'Describe' and 'Explain' are used as the command word, it is expected that some degree of description or explanation respectively is expected.

This year the examining team were asked to ensure that low-level unqualified responses such as 'quick', 'easy', and 'cheap', were not awarded marks. This change was made to ensure that there was differentiation between candidates who showed deeper understanding of the topics and were able to qualify their responses, and those candidates who simply stated the low-level unqualified response. It was anticipated that this would lower the overall average mark across the question paper, but the overall average mark remained the same. This suggests that candidates are better prepared for the question paper.

The best possible preparation for the question paper is to give candidates the opportunity to work through question papers that are similar in style. Teachers would be best placed to talk through the Marking Instructions with candidates as they complete each question. There are specific tactics that can be employed by candidates to ensure their responses attract marks. These can be practiced to ensure candidates are fully prepared for the final examination.

The Course Assessment Specification contains a section entitled '*Further mandatory information on Course coverage*'. This contains all the available areas of sampling for production of the question paper. It would be anticipated that centres use some time before the examination to prepare candidates to respond to these areas of questioning. This would be of specific use where candidates have not fully experienced the content during their course.

Exemplification of National 5 candidate responses can be found in the Understanding Standards section on SQA's secure website.

Component 2: assignment

Candidates should be aware of the skills and knowledge that are being assessed in this component:

- ◆ **Practical Skills:** Candidates need to be aware that their proposal will have to allow them to demonstrate all of the practical skills being assessed. A very simple proposal may have to be altered to allow them to do this — assessors should advise candidates on the suitability of their proposal for generating practical evidence.
- ◆ **Design Skills:** Candidates should be prepared with the skills to allow them to develop design proposals. In particular, candidates should be able to explore and evolve ideas, demonstrate application of knowledge of materials and design issues, and review their ideas.

Exemplification of National 5 Assignments can be found in the Understanding Standards section on SQA's Secure website.

Grade Boundary and Statistical information:

Statistical information: update on Courses

Number of resulted entries in 2015	5169
------------------------------------	------

Number of resulted entries in 2016	4903
------------------------------------	------

Statistical information: Performance of candidates

Distribution of Course awards including grade boundaries

Distribution of Course awards	%	Cum. %	Number of candidates	Lowest mark
Maximum Mark -				
A	34.9%	34.9%	1713	108
B	27.5%	62.5%	1349	93
C	21.2%	83.6%	1037	78
D	6.8%	90.4%	332	70
No award	9.6%	-	472	-

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.