

Principal Assessor Report 2005

Assessment Panel:

Technical Education

Qualification area

**Subject(s) and Level(s)
Included in this report**

Graphic Communication - Higher

Statistical information: update

Number of resulted entries in 2004	3,246
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Number of resulted entries in 2005	3,364
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General comments re resulted entry numbers

It is encouraging to see that the numbers are continuing to rise. This year they have increased by around 4 %. This is particularly good after a slight drop in Standard Grade candidates in 2004.

This potentially represents 55% of the previous years Credit candidates returning to do the Higher.

Statistical Information: Performance of candidates

Distribution of awards including grade boundaries

Distribution of awards	%	Cum %	Number of candidates	Lowest mark
Maximum Mark - 200	-	-	-	-
A	24.9	24.9	838	144
B	25.1	50.1	846	124
C	26.5	76.6	893	104
D	8.2	84.8	277	94
No award	15.2	100.0	510	-

General commentary on passmarks and grade boundaries

- While SQA aims to set examinations and create mark schemes which will allow a competent candidate to score a minimum 50% of the available marks (notional passmark) and a very well-prepared, very competent candidate to score at least 70%, it is almost impossible to get the standard absolutely on target every year, in every subject and level
- Each year we therefore hold a passmark meeting for each subject at each level where we bring together all the information available (statistical and judgmental). 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 senior management team at SQA
- We adjust the passmark downwards if there is evidence that we have set a slightly more demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- We adjust the passmark upwards if there is evidence that we have set a slightly less demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- Where the standard appears to be very similar to previous years, we maintain similar grade boundaries
- 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 are different. This is also the case for exams set in centres. And just because SQA has altered a boundary in a particular year in say Higher Chemistry 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
- Our main aim is to be fair to candidates across all subjects and all levels and maintain standards across the years, even as arrangements evolve and change.

Comments on any significant changes in distribution of awards/grade boundaries

Due to an effort to make the drawing ability questions (Section B) more accessible to all candidates there was a slight increase in the percentage of candidates achieving an award within each grade boundary. The only drop was in upper A's, but this was not significant. This also resulted in drop in the number of no awards.

There was a significant increase in where the grade boundaries fell compared to last year. This was to take account of a slight easing of the question paper and also the fact that grade boundaries were lower last year because of the 'degree of difficulty' associated with one of the questions.

Comments on candidate performance

General comments

Performance was better than last year. A number of factors contributed to this: the drawing questions were more accessible giving the majority of candidates the opportunity to gain marks, most candidates attempted every question and there were no problem or difficult to interpret questions. Section A is still a problem though with very few high performers. The main reason being that the knowledge of BS conventions is still very poor.

Average mark increased significantly from 70.9 to 82. The average mark for the thematic presentation was 40.7, which was similar to last year.

Areas of external assessment in which candidates performed well

Section A

Question 1 Types of graphic (3 P's) and Gantt Chart.

Both topics were answered very well with most candidates achieving six - eight marks. Therefore proved to be an excellent lead-in question.

Question 2 (b), DTP terms

Second year in a row that this has been answered well, even though very few achieved full marks. This is a major step forward as this topic was previously poorly done.

Question 5 (b), Line applications

This was very well answered by the majority of candidates.

Question 6 (a), Purpose of sectioning

As expected, almost all could answer this.

Section B

Most candidates attempted all questions in this section and managed to gain marks. This was a big improvement from previous years.

Question 8, Oblique

Very well attempted by all candidates with only the better candidates achieving the marks for the curves on the handle. Therefore offered good differentiation.

Question 9 (a), Assembled Plan

Most candidates assembled the drilling table correctly. This was pleasing as it then made many of the marks accessible to all. It was also well drawn with most candidates gaining close to maximum marks for this part.

Question 10 (a), Tangency

After years of this topic being poorly attempted it is now being excellently done by most.

Question 11, Measured Perspective

Once again this was well done, as centres continue to prepare candidates extremely well for this topic. Most candidates achieved high marks. Even with the inclusion of a tricky sloping ground, it did not deter candidates as around 80% of all candidates chose to do this over the isometric.

Question 12, Isometric

The small number of candidates (10% - 20%) who attempted this question all achieved high marks.

Areas of external assessment in which candidates had difficulty

Section A

Question 3, CAG Features

Expected better here, but very few gained all three marks. A large number of candidates confused colour gradient and tonal gradient/fill. Especially disappointing as this same question was asked recently. It would also appear that autotracing is not covered in many centres.

Question 4, Tolerances

Extremely poorly answered. Lucky if even 10% of candidates achieved even one of the five marks available.

Question 5 (a), BS conventions for line priority

Similar to question 4, as very few candidates got this correct.

Question 6, BS conventions for sections

Even though this is being repeatedly asked it is extremely poorly answered. As with last year, lucky if even 5% of candidates answered (c) and (d) correctly. This topic has been the poorest answered for a number of years now.

Question 7 (a) and (b), BS conventions for dimensioning

The majority of candidates could sketch linear dimensions but could not show any of the others correctly. In addition very few knew the convention for a flat surface.

Section B

Question 9, Sectional Elevation

Even though most candidates assembled the drilling table correctly, the majority failed to achieve more than half marks for the hatching. Difficulties included being unable to recognise which areas should be hatched, not knowing the convention for sectioning a threaded hole, convention for hatching webs.

Question 9 (a), Sectional Elevation

Most candidates assembled the drilling table correctly. This was pleasing as it then made many of the marks accessible to all. It was also well drawn with most candidates gaining close to maximum marks for this part.

Question 10 (b), Auxiliary Plan

Even though it was thought that this auxiliary was very straightforward, it was very poorly done by at least 50% of candidates.

Surprisingly, around the same number had major problems with the end elevation, due to incorrect projection (1st angle) or getting the height completely wrong.

Recommendations

Feedback to centres

General

- Candidates continue to be well prepared for the majority (in particular Pictorial views) of drawing topics.
- Issues highlighted last year relating to engineering drawings and BS Conventions are still causing concern, as once again these were the weakest areas in the exam.
- On a positive note there appeared to be fewer inappropriate candidates being presented for the Higher.

Section A

- Once again there was an improvement in performance in DTP questions.
- BS Conventions continues to be an area of concern. It is not the more obscure topics that are causing difficulty, but topics such as line types, types of section and tolerances. Improvement in this area would have a significant effect on overall performance in the exam. BS Conventions will continue to be a major component of Section A, so it cannot be ignored.
- Candidates must give more than a one-word answer when the question asks for a description, comparison or explanation.
- In some cases candidates are penalising themselves by giving two answers to a question.

Section B

- Once again pictorial drawings are being taught well in particular measured perspective.
- After last years significant improvement in the quality of auxiliary views, we returned to the very poor performance of previous years. Hopefully this year was just a blip.
- As commented for the past few years, candidates need to take enough points to accurately draw a circle in isometric or to transfer a curve between views in orthographic projection. A minimum of 12 points for a complete circle (the quadrant points plus intermediate points).
- The overall quality of draughtsmanship is still poor. There must be a clear difference between construction and completed outlines. Candidates must draw in outline to be awarded the marks. Even when outlines are drawn, they often extend beyond the point where they should end, resulting in no mark being awarded for that line. In addition the quality of hidden and centre lines is poor.

Prelim Exams

Most centres are now producing good prelim papers, but some are using material that is not in the arrangements. Most problems are related to marking schemes or marking:

- A drawn solution is not enough as detailed marking instructions including a breakdown of where individual marks are awarded, is required.
- Holistic marking must not be evident i.e. just a total mark for a whole question or individual view. There must be evidence that the marking instructions have been applied consistently.

Another small point when submitting appeals is that the estimate is for the complete course (thematic and prelim, totalling 200 marks) and not just based on the prelim exam.