



General Certificate of Secondary Education

Applied Science 4861

**APSC/4 Using Scientific Skills for the
Benefit of Society**

Report on the Examination

2007 examination – June series

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General comments – The portfolio units (1, 3, & 4)

Activities

Most centres undertook a good range of activities that covered the specification, although a small number of submitted tasks were not appropriate. There were some excellent examples of activities set in interesting vocational contexts, which candidates clearly found interesting.

Assessment

In all three units there were instances of centres being over-generous in their marking, especially at the higher end. Assessor annotations, showing where and how marks had been awarded, were generally evident, but some centres still need to address this issue. It is imperative, especially in APSC3 and APSC4, that teacher annotation clearly shows how much guidance a candidate has been given and the level of independence at which he/she is working.

There was some misinterpretation of the requirements of the specification in APSC3 and APSC4.

There was evidence that many centres had carried out thorough internal standardisation, which was very encouraging.

Penalties for incomplete portfolios were correctly applied in most cases, although it was disappointing to see a relatively large proportion of centres submitting incomplete material. Whilst it is not a requirement that every candidate completes every strand of APSC3, to do so allows candidates access to higher marks and is strongly encouraged.

Candidates may submit more than one piece of work for each strand of APSC3. For example, the section on Chemical Analysis Techniques may include a piece on qualitative and a piece on quantitative analysis and marks may be taken from both pieces. However, there was some confusion where part of the marks for a strand were taken from two pieces of work. Each individual mark must come from the same piece of work – eg the mark for Strand A in the above example must come from either the qualitative or the quantitative piece, but not some from each.

Presentation of the work to the moderator

Work was generally well presented. Plastic wallets and cardboard folders were in evidence, but most centres followed the guidance to simply hole punch and hold candidates' work together using treasury tags. The use of paper clips or staples to hold work together is to be discouraged, as work can easily become detached and muddled. Few centres sent in class work or theory work that was not marked or part of a candidate's assessed work.

Most centres sent their Centre Mark Forms and samples promptly (some were even early, which did help with the moderator workload). However, a number were very slow in submitting marks and sending the sample requested, which severely hindered moderation.

Generally, the Centre Declaration Sheets and Candidate Record Forms were completed correctly. Some centres, however, did not complete the 'title of candidate's work' sections, did not fill in all the marks on the grid, or gave marks on the CRF that did not tally with the mark on the CMF or the candidate's work. It is important to complete these forms correctly as they help the moderator navigate the work and find out, quickly, where all the marks are.

Further support

Teachers are encouraged to make full use of the guidance available from AQA which includes:

- The Teachers' Guide for the specification
- The Student Guide to Assessment
- Coursework Information for Centres 2007/2008 (sent out by the Subject Department at the beginning of each academic year)
- Portfolio Advisers
- Teacher Support Network
- Ask AQA for Teachers

Very few candidates were entered for this unit. Of the few portfolios seen, other than misinterpretation of the marking criteria, marking was generally in line with the AQA standard. The main concern was that very few candidates completed a risk assessment for each task. Centres are reminded that this is a requirement of the specification.

Monitoring Living Organisms

There was misinterpretation in the marking of 1A.1. Candidates should write their plan in the future tense (ie not simply write what they have done), and any 'plans' written in the past tense will limit a candidate to a maximum of 6 marks.

Teacher annotation is imperative to show the guidance given in preparing the plan and monitoring task.

The time scale of the monitoring period should be appropriate to the organism studied.

Making a Useful Product

Teacher annotation to show the amount of guidance a candidate has received in preparing the sample and writing the equations is vital. Teachers should check that equations and calculations are correct and complete before awarding marks – in a number of cases marks were awarded for unbalanced equations or incorrect calculations. There was some confusion in distinguishing between 'give' or 'state' (Stage 1), 'describe' (Stage 2) and 'explain' (Stage 3) the uses of a product and factors that affect the rate of reaction.

Assembling an Electronic/Electrical Device

Teacher annotation is required to show how much guidance has been given in making the device. To award 1C.2, 2C.2 and 3C.2 there must be evidence from the candidate that they have tested the device – a results table or some sort of discussion. It is important to remember that, for 2C.4, candidates must evaluate the effectiveness of the device they have made, **not** how well their experiment went.

Using Machines

Generally, Stage 1 and Stage 2 marks were given appropriately. However, at Stage 3, candidates need to show at least once how they have used the equations to carry out the calculations before they can be awarded the marks for 3D.2

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.