

A-level Chemistry

CHM6T Investigative and Practical Skills in A2 Chemistry (ISA)
Report on the Examination

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CHM6T- Administration and General Points

As with the AS-level, the omission of teacher values for some groups delayed the moderation process. Most centres tackled the ISAs well but there is still evidence of inadequate trialling of the tasks. Though the Marking Guidelines are not seen at this stage, teachers ought to be aware of the results to be expected, especially for observation tasks, and to remedy any initial problems internally or through their Assessment Adviser. It is not acceptable to submit teacher results that are clearly wrong without further action.

This year saw some deterioration in the quality of graphical work. This is an important chemical skill and should be regularly practised. Inappropriate scales, poor plotting of points and thick, doubled or wavy lines of best fit were often seen.

It is important for moderation to ensure that the rule of 'one tick per mark' is applied. This allows easier clerical checks by the centre and moderators. There is a growing number of students whose marks have to be adjusted because of clerical errors in addition. The process of internal moderation by centres was often apparent but, where there is an adjustment, the final submitted mark for that student should be made clear.

Centres often apply 'benefit of doubt' to some responses and this is acceptable so long as, within the paper as a whole, there is a balance of judgment. In general, the examination worked well and there was a good distribution of marks. The detail below highlights some of the problem areas in the marking to help teachers with similar situations in the future.

CHM6P: Task

The task was generally performed very well and good results were obtained by many. The marking was sometimes too lenient. Digital stopwatches may very well read to two d.p. but this is a precision way beyond that possible in this experiment and students should be aware of it. Marking guidelines should always be followed. A few centres had extremely short times for parts of the task and this raised the question as to whether trialling of the task had been done and that the concentrations of one or more of the reagents was too high. Although submission of the target gradient was not specifically requested it would have been helpful to see what centres were using for Accuracy – many centres supplied this information. The mark for the Trend was often too leniently given – it is important to realise that centres should not use students' own graphs for this mark without careful checking of students' answers to Q2.

CHM6P: Written test Section A

Q1 was completed well but with the usual problems regarding a misunderstanding of 'significant figures' and rounding of values from a calculator. The graph in Q2 continues to cause some students problems with scale, labelling, plotting etc. but the main difficulty for moderation was the too generous marking by some centres. Poor graphs often caused problems in Q3 where the triangles used for the calculation were frequently too small for accuracy but were not penalised. Q4 and Q5 were well answered. Q6 elicited a number of possible correct responses but they were often too vaguely expressed for marks to be given. Even answers disallowed by the Marking Guidelines were credited in some centres.

CHM6P: Written test Section B

The skill of chemical communication is one which is being assessed here. Q7a and Q7b were frequently well done with, occasionally the usual difficulty with what is expected for precision – this cannot be ignored by centres. Many good answers were seen for Q8a but only the best students got full marks with parts of the detail missing. There appeared, for some centres, to be an obsession with washing, even ‘washing solutions’! Q8b was well answered by many, especially where they had carried out the procedure but M3 was occasionally lost through a lack of clarity regarding the required ‘match’ with data values. Q8c was well answered but Q9 marked too generously; again a lack of clarity was often evident and centres were frequently too generous, misapplying the Marking Guidelines e.g. HCl is not toxic. Q10 caused few problems.

CHM6Q: Task

This worked well though the odd results from some centres raised the issue of inadequate trialling of the experiment. There was some lenient marking seen for R (no temperatures for $t=0$) and the Accuracy mark was often based on the answer to Q3 rather than Q4. Some centres had great difficulty (and possible excessive expense) in using 0.2°C thermometers and, so, were allowed to use ones reading to 0.5°C . These could still give good Accuracy scores but student technique was sometimes lacking, evidence by the unusual ‘cooling’ curves seen in the Written Test.

CHM6Q: Written Test Section A

Questions 1 to 4 were reasonably well done but only the best students were able to get all the marks. There were the usual problems with the graphs especially poor scale and lack of extrapolation, often still marked correct. Wrong signs, units and incorrect mass affected some in Q2 and 3. There was some poor marking seen for Q4 with incorrect cycles, missing factors and incorrect substitutions still being credited. This was a good discriminating question. In Q5, an apparently straightforward question had some students comparing the datum to Q4 not Q3 and this was often accepted by markers. Q6 was well answered by many, only a poor expression of ideas being evident for some.

CHM6Q: Written Test Section B

In Q7a the equation and oxidation states were frequently seen but, for some, the state for chlorine itself was omitted. In Q7b and Q8b there was often no reference to the equilibrium shift and over-complicated answers led to contradictions in responses. Q7c was well known and in Q8a the missing equilibrium sign was not always penalised. In Q9 again poor expression often led to the loss of one mark. The need to measure the absorptions of a range of relevant complex solutions was often vaguely hinted at and could not gain credit.

Mark Ranges and Award of Grades

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

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

UMS conversion calculator www.aqa.org.uk/umsconversion