

Moderators' Report/
Principal Moderator Feedback

Summer 2012

GCE Chemistry (6CH03) Paper 1A/1B
Chemistry Laboratory Skills I

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6CH03/1A report

General

This was the fourth year that the Chemistry Laboratory Skills I unit had been taken by candidates. The scheme now runs smoothly for the great majority of centres. The administration of the scheme is exemplary for many centres. Others need to make some minor changes. A few centres, however, would do well to review their implementation of the scheme. The moderators were surprised this year to find that a few centres continue to use the versions of the c and d tasks that were revised and have been on the Edexcel secure website since September, 2009.

All centre assessors are advised to read this report and their E9 feedback. They should take appropriate action to correct any shortcomings in their administration of the scheme for 2012-2013.

Comments on the administration of the scheme

- The only b tasks valid for 2012-2013, are those posted on the Edexcel secure website from September, 2012. These are the b tasks ASB17-ASB20 and the most up to date versions of the c and d tasks.
- Record sheets must be fully completed. They must include candidate numbers and the full list of GPC tasks. Centre and candidate numbers should be checked by centre assessors if they have been completed by the candidate. The moderators found a significant number of incorrect candidate numbers this year.
- Each assessment task cover sheet should be completed in full. It was common to see both candidate and centre numbers, and even candidate names, omitted.
- The sample of work required by the Edexcel moderator is indicated by asterisks or ticks by candidates' names on the entry list. If these do not include the candidates scoring the highest and lowest mark in the centre the work of these must be added to the required sample. This year moderators had to contact some centres to ask for these samples.
- For the activity c tasks, teacher's values should be included with the sample of work sent to the moderator. The preferred way to do this is to include a completed Teacher's Values Form and to annotate the work with the expected value of titre or temperature change. Copies of spread sheets or marking grids used by the teachers should be included.
- If two or more teachers mark the tasks in a centre the moderator should have evidence that internal standardisation has taken place. A useful way to show this is for the two markers to annotate the work using different coloured ink.
- As part of the moderation procedure, moderators complete an E9 feedback form. This is available to centres from results day in August. It is essential that centre assessors read and act upon any critical points made by the moderator.

Assessments

Activity a(GPC)

Most centres correctly completed record sheets by listing five experiments carried out by candidates during the year. A wide range of practicals were noted by the moderators. Most of these were appropriate and fitted into one of the core practical categories given in the specification.

Once again, a few centres listed non-counting assessment tasks as core practicals. This is acceptable to the moderators although the assessment tasks were not intended for this purpose.

Activity b Qualitative observation

The four tasks available in 2011-2012 are no longer valid and must not be used for assessment of this activity in 2012-2013. Four replacement tasks, ASB17-ASB20, are to be found on the secure web site.

- Centre assessors should implement consequential marking as far as possible when marking these tasks. For example in ASB14 if the flame colour was recorded incorrectly in (b)(i) as yellow then sodium sulfate should have been awarded the mark in (b)(iii).
- In ASB15 explanations for stating that the spectrum was for compound **H** were not always well expressed. The intention was that candidates would use their data book to identify the absorptions in the spectrum by quoting wavenumber ranges.
- When acidified dichromate(VI) oxidises an alcohol the final colour of the solution should be recorded as either blue or green. The colour blue-green is unlikely to be observed.
- In ASB16 (a)(v) it could be inferred that **K** was a primary or secondary alcohol and not just an "alcohol"
- When a molecular formula is asked for then candidates should actually write this rather than any other. For example in ASB16(b)(i) C_2H_6O is the molecular formula of ethanol although C_2H_5OH was acceptable.
- The b tasks set for 2011-2012 are no longer secure and may be used as practice exercises.

Activity c Quantitative measurement

The four tasks set to assess this activity were unchanged from 2011-2012 but, rather worryingly, a few centres continued to use the old versions of these tasks which were revised and published in September, 2009.

- In spite of comments in previous reports and on E9 feedback forms, significant figures continue to be a cause of marking error by centre assessors. In each of the four tasks at least one numerical answer must be given to the appropriate number of significant figures. This requirement is often overlooked by centre assessors.
- It is helpful to both the centre assessor and the moderator if the expected value of titre or temperature is written on the work close to the candidate's value and the difference shown.
- In the titration tables in ASC1 and ASC3 it is allowed to give the initial volume as 0 cm³. Candidates should be told that the mean titre should be given either to the nearest 0.05 cm³ or to two decimal points.
- In ASC4 the intention is that candidates transfer the solid to a weighing bottle in both Parts 1 and 2 themselves. This is the reason why the mark scheme includes a mark for the mass being in the correct range.

The four activity c tasks in the 2011-2012 scheme will again be used in 2012-2013.

Activity d Preparation

As in previous years this activity gave the highest proportion of the maximum mark for many candidates.

- Candidates are allowed to work in pairs for this activity. It is a condition of the scheme, however, that the questions are answered individually.
- ASD1 and ASD2 continue to be more popular than ASD3
- In ASD1 and ASD2 if the maximum mass has been calculated incorrectly then a corrected value should be used to re-calculate the percentage yield before marks are awarded.

The three activity d tasks in the 2011-2012 scheme will again be used in 2012-2013.

Summary

The moderators thank centre assessors, candidates and technicians for their part in the implementation of the internal assessment scheme. Centre assessors must make absolutely sure that they are using only the versions of the assessment tasks for 2012-2013 that are posted on the Edexcel Chemistry website from September, 2012. Centre assessors are encouraged to ask the Principal Moderator for guidance on the scheme through Ask the Expert service. Those new to the scheme or requiring more guidance may also like to join one of the Edexcel training events on internal assessment.

6CH03/1B report

General

The assessment tasks for this component were marked using the same mark schemes and standardising materials as the internally assessed 6CH03.01A option. This procedure ensures comparability between the two components. The grade boundaries for each component are the same. Where teachers had already marked their candidates' work this marking was disregarded by the examiners.

Generally the administration of the scheme was satisfactory although all teachers with candidates for this option in 2013 are encouraged to read this report and the equivalent one for the 6CH03.1A option. They should take appropriate action, where necessary, to ensure that the scheme is implemented correctly in 2013.

Comments on the administration of the scheme

- The only b tasks valid for 2012-2013 are those posted on the Edexcel secure website from September, 2012. These are the b tasks ASB17-ASB20 and the most up to date versions of the c and d tasks.
- Record sheets must be fully completed. They must include candidate numbers and the full list of GPC tasks. Centre and candidate numbers should be checked by centre assessors if they have been completed by the candidate. The moderators found a significant number of incorrect candidate numbers this year.
- Each assessment task cover sheet should be completed in full. It was common to see both candidate and centre numbers, and even candidate names, omitted.
- Only one each of the b, c and d tasks should be entered on the record sheet. This year some centres, confusingly, listed two of each task sending both to the examiner. It is only necessary to send one each of the b, c and d tasks. It is the responsibility of the centre to choose these tasks from others that may have been completed by the candidate.
- For the activity c tasks, teacher's values should be included with the sample of work sent to the examiner. The way to do this is to include a completed Teacher's Values Form.
- Some teachers mark their candidates' work before it is sent to the Edexcel examiner. Presumably this is to help them to choose what is likely to be the highest scoring task when more than one has been completed for a particular activity. Any marking by teachers should be in pencil and not in red ink.

Assessments

Activity a (GPC)

Most centres correctly completed record sheets by listing five experiments carried out by candidates during the year. A wide range of practicals were noted by the examiners. Most of these were appropriate and fitted into one of the core practical categories given in the specification.

Activity b Qualitative observation

The four tasks available in 2011-2012 are no longer valid and must not be used for assessment of this activity in 2012-2013. Four replacement tasks, ASB17-ASB20, are to be found on the secure web site.

- Examiners implement consequential marking as far as possible when marking these tasks. For example in ASB14 if the flame colour was recorded incorrectly in (b)(i) as yellow then sodium sulfate was awarded the mark in (b)(iii).
- In ASB15 explanations for stating that the spectrum was for compound **H** were not always well expressed. The intention was that candidates would use their data book to identify the absorptions in the spectrum by quoting wavenumber ranges.
- When acidified dichromate(VI) oxidises an alcohol the final colour of the solution should be recorded as either blue or green. The colour blue-green is unlikely to be observed.
- In ASB16 (a)(v) it could be inferred that **K** was a primary or secondary alcohol and not just an "alcohol"
- When a molecular formula is asked for then candidates should actually write this rather than any other. For example in ASB16(b)(i) C_2H_6O is the molecular formula of ethanol although C_2H_5OH was acceptable.
- The b tasks set for 2011-2012 are no longer secure and may be used as practice exercises.

Activity c Quantitative measurement

The four tasks set to assess this activity were unchanged from 2011-2012.

- In spite of comments in previous reports significant figures continue to be a cause of error by candidates. Some candidates obviously confuse significant figures with decimal points. For example in ASC4 the final calculation may give a value of 91.325 for ΔH_3 . This should be written to two significant figures as $+91 \text{ kJ mol}^{-1}$.
- In the titration tables in ASC1 and ASC3 it is allowed to give the initial volume as 0 cm^3 . Candidates should be told that the mean titre should be given either to the nearest 0.05 cm^3 or to two decimal points.
- In ASC4 the intention is that candidates transfer the solid to a weighing bottle in both Parts 1 and 2 themselves. This is the reason why the mark scheme includes a mark for the mass being in the correct range.

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The three activity d tasks in the 2011-2012 scheme will again be used in 2012-2013.

Summary

The examiners thank teachers, candidates and technicians for their part in the implementation of the internal assessment scheme. Teachers must make absolutely sure that they are using only the versions of the assessment tasks for 2012-2013 that are posted on the Edexcel Chemistry website from September, 2012.

Teachers are encouraged to ask the Principal Examiner for guidance on the scheme through Ask the Expert service. Those new to the scheme or requiring more guidance may also like to join one of the Edexcel training events on 6CH03/6CH06.

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