

Moderators' Report/  
Principal Moderator Feedback

June 2011

GCE Chemistry (6CH03) Paper  
Chemistry Laboratory Skills I

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## **6CH03/1A**

### **General**

Once again it is pleasing to report that the coursework component ran successfully, with the great majority of candidates being assessed rigorously and correctly.

The b tasks for 2010-2011 were new. The c and d tasks were unchanged from 2009-2010.

In many centres the administration of the scheme is exemplary. Record sheets are completed in full and the sample sent to the moderator is exactly as required. In other centres, however, record sheets and the sample are incomplete so the moderator has to ask centres for more information at a late stage in the examination session. It was especially disappointing that some centres were still using 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 report. They should take appropriate action to correct any shortcomings in their administration of the scheme for 2011-2012.

### **Comments on the administration of the scheme**

- The only b tasks valid for 2011-2012 are those posted on the Edexcel GCE Chemistry page of the secure website. These are the b tasks ASB13-ASB16 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. Any record sheets lacking candidate and teacher signatures and dates are invalid and will be returned to centres for completion. The front cover of each assessment task should be completed with the candidate's name, number and the centre number.
- The sample of work required by the Edexcel moderator is indicated by asterisks 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.
- It is a requirement of the scheme that, for the activity c tasks, teacher's values are 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. Without this information the moderator is unable to follow the award of marks for accuracy.
- If just one teacher has been responsible for the marking of the tasks in a centre a note to explain this is much appreciated by the moderator. If

two or more teachers mark the assessment tasks in a centre the moderator should have evidence that internal standardisation has taken place.

- As part of the moderation procedure, moderators complete an E9 feedback form. This is available to centres from results day in August on Edexcel online via this link: [www.edexcelonline.com](http://www.edexcelonline.com)  
It is essential that centre assessors read and act upon any critical points made by the moderator.

## Assessments

### Activity a(GPC)

The reason for having these tasks in the scheme continues to cause confusion for teachers in a few centres. In order to develop a full knowledge and understanding of many of the topics in the specification candidates should have as much laboratory experience carrying out relevant practical work as possible. As evidence of this the scheme demands that every candidate has five of these core practicals listed on his or her record sheet.

- Edexcel does not provide details of experiments to be carried out as core practicals.
- It is a requirement of the scheme that the five core practicals (GPC tasks) are listed, along with the dates they were carried out, on each candidate's record sheet. Some centres failed to do this.
- The moderator does not need any samples of the work or any more details than are on the record sheet for this activity.
- It is acceptable to list as activity a task, assessment exercises for which the marks are not included in the candidate's total mark. However, an exercise must **not** be counted for **both** activity a **and** b, c or d.

### Activity b Qualitative observation

The four tasks available in 2010-2011 are no longer valid and must not be used for assessment of this activity in 2011-2012. Four replacement tasks, ASB13-ASB16, are to be found on the secure web site.

Most centre assessors marked their students' work by following the mark schemes carefully and rigorously. It is accepted by the moderators that some interpretation of the mark schemes, especially the observations, is allowed. This is particularly the case when a colour change recorded by the candidate does not agree with that on the mark scheme but is confirmed by the teacher.

- The observations made when concentrated sulfuric acid is added to a solid chloride continue to be poorly recorded. It is expected that steamy fumes are seen at the mouth of the test tube. It is only when these come into contact with ammonia that white smoke is observed.
- Candidates continue to use terms such as suspension, cloudy and solid

rather than precipitate.

- If a compound gives positive tests with phosphorus (V) chloride and acidified potassium dichromate (VI) then the inference should be that it is 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 ASB11(b)(i)  $C_3H_8O$  is the molecular formula of propan-1-ol
- The b tasks set for 2010-2011 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 2009-2010 but, rather worryingly, some centres continued to use the old versions of these tasks which were revised and published in September, 2009.

- Significant figures continue to be a cause of marking error by centre assessors. A numerical answer should only be penalised for inappropriate SFs if the mark scheme refers to this penalty. However, when the mark scheme does include that an answer should only be awarded a mark if it is given to a stated number of SFs this must be followed by centre assessors. Incorrect SFs should only be penalised once within any one assessment task.
- The moderators found examples of the incorrect awarding of accuracy marks. 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.
- A mark should not be awarded to the titration tables in ASC1 and ASC3 unless the burette readings are recorded to  $0.05 \text{ cm}^3$ . One slip is allowed.
- The first mark for the calculation of  $\Delta H_3$  in ASC4 should only be awarded for a correct method that leads to an answer. The method must include that  $\Delta H_2$  is doubled. The second mark is for an answer expressed to two significant figures and with a sign.

The four activity c tasks in the 2010-2011 scheme will again be used in 2011-2012.

### **Activity d Preparation**

This activity again 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.
- Consequential marking should be used in ASD1 and ASD2 when awarding marks for the yield. 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.
- In ASD3 the equation in (f) must be exactly as written in the mark

scheme to be awarded a mark. In a few centres the mark was awarded even though the 2 before the [O] was omitted.

The three activity d tasks in the 2010-2011 scheme will again be used in 2011-2012.

### **Summary**

The moderators would like to 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 2011-2012 that are posted on the Edexcel GCE Chemistry page of the website.

Centre assessors are encouraged to ask the Principal Moderator for guidance on the scheme through Ask the Expert. 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**

### **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.

Since centres entering for this option do not receive the E9 feedback, it is strongly recommended that teachers read both this report and that for 6CH03.01A, as much of the information in that report is relevant to this component. In particular some of the comments on administration of the scheme apply equally to both components.

### **Comments on the administration of the scheme**

- The only b tasks valid for 2011-2012 are those posted on the Edexcel secure website in September, 2011. These are the b tasks ASB13-ASB16 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. Any record sheets lacking candidate and teacher signatures and dates are invalid and will be returned to centres for completion. The front cover of each assessment task should be completed with the candidate's name, number and the centre number.
- It is a requirement of the scheme that, for the activity c tasks, teacher's values are included with the sample of work sent to the examiner. The way to do this is to include a completed Teacher's Values Form. If there is more than one teaching set in a centre then teachers should make clear on the form which results apply to which candidates.
- It is only necessary to send to the examiner 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. There is no point in sending more than one of each since the examiner will only mark the task that is entered on the record sheet.

### **Assessments**

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The reason for having these tasks in the scheme continues to cause confusion for teachers in a few centres. In order to develop a full knowledge and understanding of many of the topics in the specification candidates should have as much laboratory experience carrying out relevant practical

work as possible. As evidence of this the scheme demands that every candidate has five of these core practicals listed on his or her record sheet.

- Edexcel does not provide details of experiments to be carried out as core practicals.
- It is a requirement of the scheme that the five core practicals (GPC tasks) are listed, along with the dates they were carried out, on each candidate's record sheet. Some centres failed to do this.
- The examiner does not need any samples of the work or any more details than are on the record sheet for this activity.
- It is acceptable to list as activity a tasks, assessment exercises carried out but which are not to be marked by the examiner. However, an exercise must not be listed on the record sheet for both activity a and b, c or d.

### **Activity b Qualitative observation**

The four tasks available in 2010-2011 are no longer valid and must not be used for assessment of this activity in 2011-2012. Four replacement tasks, ASB13-ASB16, are to be found on the GCE Chemistry secure web site.

- The observations made when concentrated sulfuric acid is added to a solid chloride continue to be poorly recorded. It is expected that steamy fumes are seen at the mouth of the test tube. It is only when these come into contact with ammonia that white smoke is observed.
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### **Activity c Quantitative measurement**

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- Significant figures continue to be a cause of lost marks by candidates. A numerical answer is only penalised for inappropriate SFs if the mark scheme refers to this penalty. However, when the mark scheme does include that an answer should only be awarded a mark if it is given to a stated number of SFs the examiners do penalise this error. Incorrect SFs

are only penalised once within any one assessment task.

- The examiners award marks for accuracy in the c tasks by comparing the candidate's actual value of titre or temperature with an expected value. This is calculated by the examiner using the values of mass, titre and temperatures recorded by the teacher. These should be entered on a Teacher's Values Form and enclosed with the work sent to the examiner.
- A mark is not awarded to the titration tables in ASC1 and ASC3 unless the burette reading are recorded to 0.05 cm<sup>3</sup>. (one slip is allowed)
- The first mark for the calculation of  $\Delta H_3$  in ASC4 is only awarded for a correct method that leads to an answer. The method must include that  $\Delta H_2$  is doubled. The second mark is for an answer expressed to two significant figures and with a sign.

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The three activity d tasks in the 2010-2011 scheme will again be used in 2011-2012.

### **Summary**

The examiners would like to 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 2011-2012 that are posted on the Edexcel Chemistry page of the website.

Teachers are encouraged to ask for guidance on the scheme through Ask the Expert. Those new to the scheme or requiring more help may also like to join one of the Edexcel training events on Units 3 and 6.

## **Appendix A: Grade boundaries**

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>

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