

Examiners' Report/  
Principal Examiner Feedback

Summer 2015

Pearson Edexcel GCE Chemistry  
(6CH06) Papers 1A/1B Chemistry  
Laboratory Skills

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Publications Code UA041086\*

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## **6CH06 1A**

### **General comments**

With the scheme in its sixth year, most centres now administer and implement the scheme correctly. Candidates are generally well prepared for the assessments, presumably having practised by carrying out tasks set in earlier years. High marks are common and well deserved. Much of the work seen by the moderators is exemplary. In some centres almost all the entry scores maximum or near maximum marks. The moderators saw very few marks below 30.

There are, however, some centres that do fail to administer the scheme as instructed by Edexcel. Assessors from these centres are strongly advised to read this report and the equivalent one for 6CH03 option 1A and then implement any changes in their delivery of the scheme that may be necessary.

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

- It is essential that moderators receive a sample from a centre that includes the work requested by Edexcel plus that of the highest and lowest scoring candidates. Some centres failed to do this causing the moderator to have to contact the centre to request more work to be sent.
- In order that the moderator may check the marks awarded for accuracy in c tasks the centre needs to include either a completed Teacher's Values form or write the expected value of titre or temperature on the work. c tasks should be annotated to show how accuracy marks have been awarded. Many centres included spreadsheets listing values and marks awarded.
- An E9 feedback form, completed by the moderator, is sent to every centre. Sometimes there are comments on the E9 pointing out any shortcomings by the centre in its implementation of the scheme. Centre assessors should note these comments and take appropriate action when running the scheme in 2015-2016.

## Assessments

### Activity a(GPC)

Centres now understand that what is required on the record sheet is to list five core practicals along with their dates. At least one physical, inorganic and organic task must be included.

### Activity b Qualitative observation

The four tasks available in 2014-2015 are no longer valid and must not be used for assessment of this activity in 2015-2016. Four replacement tasks, A2B25-A2B28, will be on the secure website from September.

- Candidates should be familiar with the chemistry in A2B21(b)(i). The starch-iodine blue-black colour disappears to leave a white precipitate of copper(I) iodide when sodium thiosulfate is added.
- In A2B21(b)(ii) the oxidation numbers should have been written as +2 and +1 and not Cu(II) and Cu(I).
- In A2B24(a)(iii) it was acceptable to award the mark for circling the five hydrogen atoms on the two outer carbon atoms.
- The expected functional group identified in A2B24(c) was aldehyde rather than the carbonyl group.

### Activity c Quantitative measurement

The four tasks available in 2014-2015 are no longer valid and must not be used for assessment of this activity in 2015-2016. Four replacement tasks, A2C9-A2C12 will be on the secure website from September.

- In A2C6 and A2C8 candidates were required to draw lines of best fit. The lines drawn were not always the most appropriate. Teachers may find it useful to explain to students how such lines should be drawn.
- In A2C7 some candidates made a poor choice of titres to use in their mean. They should be taught to choose titres within  $0.1 \text{ cm}^3$  or  $0.2 \text{ cm}^3$ .
- Rounding and significant figure mistakes continue to be a cause of lost marks for candidates. A significant number of candidates confuse decimal places with significant figures.
- Table 1 in A2C8 was often awarded full marks by teachers but, when the calculations were checked by moderators, errors were found. It is expected that teachers will check calculations.

### **Activity d Preparation**

The most popular preparation was, again, the preparation of the copper(II)-ammonia complex. This relatively straight-forward preparation gives a high yield of product. Some centres reported that students needed to add more hydrochloric acid than suggested in the procedure in A2D6 before benzoic acid formed as a solid.

The activity d tasks available in 2015-2016 are A2D7-A2D9.

### **Multi-stage activity**

A2M2 A number of centres took the opportunity to assess their candidates using this extended task. Within a centre it is allowed for some candidates to submit this task and for others to use separate c and d tasks as part of their mark profile.

For 2015-2016 a new multi-stage activity, A2M3, is available.

### **Summary**

As ever moderators thank centre assessors, candidates and technicians for their part in the implementation of the 6CH06 internal assessment scheme. Centre assessors must make absolutely sure that they are using the correct assessment tasks for 2015-2016. These are posted on the Edexcel Chemistry website from September 2015.

## **6CH06 1B**

### **General Comments**

With the scheme in its sixth year, most centres have built up expertise in its implementation and administration. Most candidates are well prepared for the assessment tasks. High marks are common and well deserved.

Even though the scheme is well established, however, there are some centres that still fail to administer the scheme perfectly correctly.

All teachers are advised to read this report and the equivalent one for 6CH03 option 1B and then implement any changes to their delivery of the scheme that may be necessary.

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

- In order that the examiner may award marks for accuracy in c tasks the centre needs to include a completed Teacher's Values form. When a centre fails to include this form the examiner must attempt to contact the centre to request that the form be sent before he or she can mark the work.
- Some candidates fail to complete record sheets with candidate names and numbers. Centre and candidate numbers should be checked by the teacher signing the record sheet if they have been completed by the candidate since the examiners commonly find errors.
- Teachers often mark the tasks before they are sent to the examiner. They do so in order to decide which tasks are the highest scoring ones. It is helpful to the examiners and may avoid confusion if this marking is carried out in pencil and not in red ink. Even if they have marked the work teachers should not enter marks on the record sheet.
- Centres should be aware of the change to the scheme for 2015-2016. All the assessment tasks are new and are numbered A2B25-A2B28, A2C9-A2C12, A2D7-A2D9 and A2M3. The new tasks will be on the secure Edexcel website from September 2015.

## Assessments

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- In A2C6 and A2C8 candidates were required to draw lines of best fit. The lines drawn were not always the most appropriate. Teachers may find it useful to explain to students how such lines should be drawn.
- In A2C7 some candidates made a poor choice of titres to use in their mean. They should be taught to choose titres within 0.1 cm<sup>3</sup> or 0.2 cm<sup>3</sup>.
- Rounding and significant figure mistakes continue to be a cause of lost marks for candidates. A significant number of candidates confuse decimal places with significant figures.
- Table 1 in A2C8 was often found to include incorrectly calculated values although the experimental results were usually good.

### **Activity d Preparation**

The most popular preparation was, again, the preparation of the copper(II)-ammonia complex. This relatively straight-forward preparation gives a high yield of product. Some centres reported that students needed to add more hydrochloric acid than suggested in the procedure in A2D6 before benzoic acid formed as a solid.

The activity d tasks available in 2015-2016 are A2D7-A2D9.

### **Summary**

As ever examiners thank teachers, candidates and technicians for their part in the implementation of the 6CH06 internal assessment scheme. Teachers must make absolutely sure that they are using the correct assessment tasks for 2015-2016. These are posted on the Edexcel Chemistry website from September 2015.

## **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>

