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Examiners' Report/ Principal Examiner Feedback

Summer 2015

Pearson Edexcel GCE Chemistry (6CH03) Papers 1A/1B Chemistry Laboratory Skills

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Summer 2015
Publications Code US041079*

6CH03 1A

General Comments

The assessment scheme is now well established. Most centres now administer the scheme correctly. Assessments are carried out and marked as intended. Samples of work are submitted to the moderator on time. For these centres moderation is a fairly routine task. There are, however, a few centres that do need to review their procedures. In some cases the sample of work sent to th moderator was incomplete or badly organised. Marking can be too generous with teachers failing to apply the mark scheme rigorously.
Centre assessors are advised to read this report and their E9 feedback. They should take appropriate action to correct any shortcomings in their application of the assessment scheme for 2015-2016.

Comments on the administration of the scheme

- For 2014-2015 all of the assessment tasks were new. For 2015-2016 all the tasks will again be new and will be on the secure website by September 2015.
- The administration and implementation of the scheme remain unchanged.
- Students re-sitting Unit 6CH03 option 1A must complete new tasks for each of activity b, c and d.
- Some students fail to complete record sheets with student names and numbers. Centre and student numbers should be checked by centre assessors if they have been completed by the student since the moderators commonly find errors.
- The sample of work sent to the moderator should include that of the highest and lowest scoring student in the centre. If the sample requested by Edexcel does not include one or both of these then the centre must add the work of these students to the sample. Moderators often have to contact centres to request this work when it is omitted from the sample.
- 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. The inclusion of spreadsheets is also helpful to the moderator.
- 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 inks. If only one teacher has marked the work then a note to the moderator to explain this is welcomed.
- Teachers are advised to find and read the E9 feedback report sent to all centres.

Assessments

Activity a(GPC)

This year there were no significant issues regarding the listing of the five tasks on record sheets. A range of laboratory activities are listed on the record sheets. Providing at least one each of a physical, an inorganic and an organic experiment is included in the five tasks listed then the moderators do not comment on this part of the record sheet.

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, ASB29-ASB32, will be on the secure website from September.

- The two inorganic tasks, ASB25 and ASB26 were more popular than the two organic ones.
- In ASB25(d)(i), when concentrated sulfuric acid is added to sodium chloride, steamy fumes is the expected observation. When ammonia comes into contact with this, white smoke is observed.
- The equation in ASB25(c)(ii) was not well answered. Many student find ionic equations to be very demanding.
- In ASB27 (d)(ii) the mark for identification of **H** could be awarded for any C_4 iodoalkane.
- In ASB28(b) the wavenumber range should have been given as part of the explanation. Those students giving a single wavenumber should not have been awarded the second mark.
- The b tasks set for 2014-2015 are no longer secure and may be used as practice exercises.

Activity c Quantitative measurement

Some issues referred to in previous 6CH03 reports remain to be addressed by centres.

- Significant figures once again continue to be a cause of lost marks for students and of marking error by teachers. In each of the four c tasks at least one numerical answer should have been given to a specified number of significant figures. It was common in ASC8 and ASC9 for answers to the calculations to be given to 2 or 4 significant figures and for the mark to be awarded by centre assessors.
- It is helpful to the moderator if the expected value of titre or temperature is written on the work close to the student's value and the difference shown. In addition the moderator finds it very useful to have a completed Teacher's Values form so that he or she may check the award of accuracy marks.
- In ASC6 some centres reported that the temperature had remained constant rather than fallen after a maximum had been reached. In such cases centres should ask the Principal Moderator for advice on Ask the Expert before marking a task.
- The four activity c tasks in the 2015-2016 scheme will be ASC10 –ASC13.

Activity d Preparation

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

- Students are allowed to work in pairs for this activity. It is a condition of the scheme, however, that the questions are answered individually.
- The most popular task was ASD5, the preparation of magnesium sulfate crystals.
  Observations in (a), other than those in the mark scheme, were often sent to the Principal Moderator, via Ask the Expert, to ask if they could be awarded a mark.
- In ASD7, the cyclohexene layer was reported as being clear before anhydrous calcium chloride was added. Centre assessors could award a mark for appropriate observations when this happened in the preparation.
- If the maximum mass has been calculated incorrectly in a preparation then a corrected value should be used to re-calculate the percentage yield before marks are awarded.

The activity d tasks available in 2015-2016 are ASD8 – ASD10.

Summary

The moderators thank centre assessors, students 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
2015-2016 that are posted on the Edexcel Chemistry website from September 2015.

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

6CH03 1B

General Comments

The marking and standardisation of the assessment tasks for this component are carried out using the same mark schemes and standardising materials as the internally assessed 6CH03.01A option. The grade boundaries for each component are the same.

The assessment tasks are also the same as those for 6CH03.01A. For both components centres need to be aware that all of the tasks for 2015-2016 are new. Tasks for previous years are not valid and will not be accepted by the examiners.

Some centres fail to implement all the procedures needed to operate the scheme rigorously and fairly. All teachers entering students for 6CH03.01B in 2015 are advised to read this report and, if necessary, to act upon it in order to ensure that the laboratory skills of their students are fairly and correctly assessed.

Comments on the administration of the scheme

- For 2014-2015 all of the assessment tasks were new. For 2015-2016 all the tasks will again be new and will be on the secure website by September 2015.
- The administration and implementation of the scheme remain unchanged.
- Students re-sitting Unit 6CH03.1B must complete new tasks for each of activities b, c and d.
- Some students fail to complete record sheets with candidate names and numbers. Centre and student numbers should be checked by centre assessors if they have been completed by the student since the examiners commonly find errors.
- In order that the examiner may award accuracy marks in c tasks, the centre needs to include a completed Teacher's Values form with the scripts.
- 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.

Assessments

Activity a(GPC)

This year there were no significant issues regarding the listing of the five tasks on record sheets. A range of laboratory activities is listed on record sheets. At least one each of a physical, an inorganic and an organic experiment should be included in the five tasks listed.

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, ASB29-ASB32, will be on the secure website from September.

- The two inorganic tasks, ASB25 and ASB26 were more popular then the two organic ones.
- In ASB25(d)(i), when concentrated sulfuric acid is added to sodium chloride, steamy fumes is the expected observation. When ammonia comes into contact with HCl white smoke is observed.
- The equation in ASB25(c)(ii) was not well answered. Many students find ionic equations to be very demanding.
- In ASB27(d)(ii) the mark for identification of **H** could be awarded for any C_4 iodoalkane.
- In ASB28(b) the wavenumber range should have been given as part of the explanation. Those students giving a single wavenumber were not awarded the second mark.
- The b tasks set for 2014-2015 are no longer secure and may be used as practice exercises.

Activity c Quantitative measurement

Some issues referred to in previous 6CH03 reports remain to be addressed by centres.

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- It is essential that the centre includes a completed Teacher's Values with the scripts so that the examiner may award accuracy marks.
- In ASC6 some centres reported that the temperature had remained constant rather than fallen after a maximum had been reached.

The four activity c tasks in the 2015-2016 scheme will be ASC10 – ASC13.

Activity d Preparation

As is the case in previous years, this activity gave the highest proportion of the maximum mark for many students.

- Students are allowed to work in pairs for this activity. It is a condition of the scheme, however, that the questions are answered individually.
- The most popular task was ASD5, the preparation of magnesium sulfate crystals.
  Observations in (a), other than those in the mark scheme, were often seen by the examiners.
- In ASD7, the cyclohexene layer was reported as being clear before anhydrous calcium chloride was added.
- If the maximum mass has been calculated incorrectly in a preparation then a corrected value was calculated by the examiners before marks were awarded.

The activity d tasks available in 2015-2016 are ASD8 – ASD10.

Summary

The examiners thank centre assessors, students 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
2015-2016 that are posted on the Edexcel Chemistry website from September 2015.

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

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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