

Applied ICT

Advanced GCE AS H515/H715

Advanced Subsidiary GCE AS H115/H315

Report on the Units

June 2009

H115/H315/H515/H715/MS/R/09

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Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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Chief Examiner's Report

Most importantly, this session is the last using the specification in its current form. From September 2009, the revised specification must be used for **all** teaching and assessment, including for students starting A2 units in the second year of their course. The latest version of the specification and other documents can be found at:

http://www.ocr.org.uk/qualifications/ASA_LevelGCEForFirstTeachingIn2009/app_it/index.html

Changes to the content of the units are very limited. The major changes are to the assessment evidence grids for the coursework units and G048 and to the types of questions asked in G054 and G055 examination papers – see the sample assessment material, which can be accessed using the link above. A commented copy of the specification, which highlights the changes, can be found within the members' documents and resources section of the e-community.

*For January 2010 entries onwards, **all** work submitted for moderation **must** have been assessed using the revised assessment evidence grids.*

Candidates' performance in the examinations continues to be considerably weaker than their performance in the coursework units, including G048. Whilst the majority are able to access many of the marks awarded for pre-released tasks and perform reasonably well in section A of the papers, candidate responses in section B of all papers continue to limit the marks that can be awarded. Centres are reminded of the need to teach the concepts covered in the 'What You Need to Learn' section of the units, as well as preparing candidates to complete the pre-released tasks. Questions requiring description, explanation or evaluation are also poorly attempted, with candidates often only gaining half or fewer of the marks available because their answers lack the required detail. Candidates need to be taught the command words that are used and the type of answer expected for each.

Centres are reminded that candidates should only submit work carried out in response to the tasks for use in the examination. In particular, task 1 must **only** include what is specified within the task in the candidate instructions and be clearly applied to the relevant case study. General class notes based on the 'What You Need to Learn' section of the unit or material downloaded from the WWW must **not** be taken in to the examination. However, **all** work taken into the examination room **must** be attached to the examination paper and submitted to the Examiner. Those invigilating the examination need to be given clear instructions to do so.

There were many instances this session where candidates appeared to have been over-guided while carrying out the pre-released tasks. This was demonstrated by reports that included similar points in a similar order and diagrams with the same omission/misconceptions. Whilst it is acceptable for teachers to ensure that candidates understand the tasks and what they need to do to complete them, the work submitted in response to the tasks must be each candidate's own unaided work.

Report on the Units taken in June 2009

All centres should by now be aware of the Joint Council ruling regarding centre authentication of coursework. This applies to both the pre-release tasks in the examined units and the centre assessed units. Whilst most centres submitted Centre Authentication Forms (CCS160) for the centre assessed units, again, a significant percentage failed to include them in the script packets for the externally assessed unit. This should be done as a matter of course. Candidate Authentication Statements must be signed, but should be retained in the centre and **not** submitted to the Examiner or Moderator.

Please ensure that all pre-release work is attached to the question paper using a treasury tag. Please also discourage candidates from tying treasury tags in knots or wrapping them several times through the punched holes. It is essential that the Examiner can separate the pre-release work from the examination paper easily to mark it.

Whilst most work submitted for moderation was of an appropriate standard, the standard of some work at AS level was more appropriate to GCSE and the standard of some work at A2 was more appropriate to AS level. Centres need to ensure that the depth and breadth of the work submitted is appropriate for an A level qualification.

There has been a worrying increase over the last few sessions of instances of plagiarism in coursework portfolios, be this copying and pasting material from websites or copying printed material word-for-word. Candidates need to be taught the difference between using material from websites and other sources to inform their responses and simply copying it. They also need to be taught how to quote existing sources and how to reference them properly. Providing a reference should not be seen as a means of making it acceptable to copy large amounts of material and teachers need to ensure that marks awarded reflect the candidates' own work.

The importance of centres getting marks to the Moderator by the deadline cannot be over-emphasised. Failure to do so may result in delays in the publication of candidates' results. If there are **10 or fewer** candidates entered, **all the work** must be sent to the Moderator with the MS1. Prompt submission of the work requested and responses to other correspondence such as clerical error letters is also vital.

The importance of a fully and accurately completed unit recording sheet cannot be over-emphasised. Moderators must be able to match the work to the mark on the MS1, so both candidate name and number should be completed. It is also vital that the total mark is indicated, that it correctly totals the individual task marks and that the total on the unit recording sheet and the MS1 match.

As with pre-release tasks for examined units, plastic pockets, folders and particularly ring-binders should not be used to send unit portfolios. Work should be hole-punched and secured with treasury tags.

Principal Moderator's Report AS H115/H315 GCE Applied ICT

General Comments

As in previous sessions, due to accreditation, only a percentage of work was moderated. The standard of the work submitted was generally acceptable, although scaling had to be applied in a number of instances, with significant scaling being required in a few. Worryingly, it was necessary to adjust the marks of several of the accredited centres that were randomly sampled. Assessors in accredited centres need to ensure that they check the required standards by attending INSET and apply these standards when assessing work. Accredited centres are reminded that their work may get called for moderation as part of the random sample. A letter is sent to selected centres shortly before the moderation session and centres are urged to take note of this and act accordingly.

Centres are reminded of the need to internally moderate work prior to submission of marks. Failure to do so may result in an invalid order of merit, which requires the work to be returned to the centre for re-assessment, which in turn may lead to a delay in the issuing of results.

Worryingly, there continues to be an increase in plagiarism, with some candidates simply copying material from books, websites or other sources, or copying from each other. Candidates need to be taught how to use information to inform their own work, when it is appropriate to quote a source and to what extent, and how to cite and reference the sources they use. They also need to recognise that, even if they have referenced the source, producing work that is substantially copied from books and websites does not demonstrate their understanding and is unlikely to gain marks. Centres should make the consequences of plagiarism clear to candidates and be vigilant in ensuring that instances of plagiarism by candidates are identified.

The importance of meeting deadlines for the submission of mark sheets cannot be over emphasised. The moderation window is not very long and failure to submit marks on time causes delays to the whole process. Centres are also reminded of the need to submit the requested portfolios promptly on receipt of the sample request.

Moderation was hampered again this session by the number of inaccuracies in recording marks on the mark sheets and other administration issues. For moderation to progress smoothly the task marks on the unit recording sheet must be added correctly, the total recorded in the box provided and this total must be transferred accurately to the MS1 mark sheet. If the marks are changed through internal moderation, or additional work being submitted by candidates, please ensure that both the individual task marks and the total are changed and that it is clear which the final marks are. Where candidates are re-submitting work or have made substantial amendments to it, it may be helpful to enter the final marks on a new unit recording sheet to avoid confusion. Centres are reminded that, once marks are recorded on the MS1 and submitted, candidates **must not** have access to the work to make further amendments until after the results are issued.

It is also vital that the moderator can read the marks awarded on the MS1 to select a representative sample. Changes made on the top copy are not always readable on the moderator's copy, resulting in delays while these are clarified. When centres use electronic methods to submit marks to OCR, a printed copy of the marks submitted must be sent to the moderator.

Similarly, centres are reminded that, where there are **10 or fewer** candidates, **all** the candidates' work **must** be sent to the moderator with the MS1 by the deadline. However, where **more than 10** candidates are entered, please do **not** send the work with the MS1. The moderator will request the 10 they want to see on receipt of the MS1.

Centres are also reminded of the need to complete and include Centre Authentication forms (CCS160) with the work. The Joint Council has indicated that centres who fail to authenticate a coursework unit will not receive marks for that unit. Only one form per unit is required – it is not necessary to attach a form to each candidate's work. Also, whilst candidates must sign a Candidate Authentication Form, these should be kept securely in the centre and not submitted with the work.

In many cases unit recording sheets had been completed thoroughly. There were helpful comments as to why a particular mark had been awarded and page numbers to direct the moderator to the evidence. However, a significant number of centres had included little comment and no page referencing. This essentially means that the work has to be re-assessed, rather than moderated, and the moderator may not be able to locate all the evidence claimed, resulting in scaling. Centres are also encouraged to annotate the work to indicate where there is evidence for a particular task and mark band. A simple 'a3' in the margin, to indicate there is evidence for task a, mark band 3, is very helpful, as are comments to indicate where different parts of a task have been evidenced.

Pages should be numbered uniquely from the start to the end of the portfolio, even if this is done by hand when the work is finally assembled. Representative page numbers on the unit recording sheet are more helpful than attempting to indicate every page that contributes to the evidence.

Some work was very poorly organised, making the moderation process more difficult. Candidates need to be taught how to assemble a portfolio, rather than merely collect together a number of different pieces of work for assessment. They should be encouraged to organise the work in a logical order, use suitable section headings and include a contents page. However, it is not necessary to scan in hand-drawn designs. When these are drawn in pencil, the scanned image is too faint to be read. Remember, the moderator is checking the content of such designs. It is far better to simply include the original versions. The volume of work submitted should also be considered. Portfolios that are many pages long are counter-productive, as it makes it more difficult to locate the evidence required. It is the quality, rather than the quantity, of the work that is being assessed and candidates need to be selective about what they include.

Although most centres are using treasury tags or other suitable methods to secure the work sent, plastic pockets, plastic folders and occasionally ring binders are still being used by some centres. These should be avoided.

Comments on Individual Units

G040 – Using ICT to communicate

Although many centres had assessed this unit accurately, there was considerable variation in the quality of the work seen. Some was of a very high standard, while some was little better than would be expected at Level 2/GCSE level.

Some centres continue to provide assignments that require candidates to create standard business documents such as letters, invoices, memos and agendas. These do not give candidates sufficient opportunities to demonstrate their abilities to use the range of software, facilities and media required for this unit.

Some of the unit portfolios produced for this unit were very extensive. This can be counterproductive as it becomes difficult for the moderator to locate the required evidence.

Unless the comparative report for task a is being used as one of the six original communications, which is not recommended, it is not necessary to include planning or draft copies of this document, neither are draft copies of evaluations required. Draft copies of other documents should be carefully selected, labelled and annotated to show development. Two or three drafts should be sufficient. Also, whilst the collection and analysis of existing documents to inform the design of the candidates' documents is good teaching practice, these do not need to be included in the portfolio. However, the documents compared in task a must be included in the portfolio, so that the moderator can judge the accuracy of the descriptions given.

Task a

The requirement for this task is that candidates describe and compare two types of document from each of three organisations, for example a letter and a brochure from each. Care is needed in the choice of documents. As candidates have to identify good and bad points about writing style, it is important that documents have some content. Blank letterheads, business cards, etc. are not suitable documents for comparison. The two types of document should also be sufficiently distinct. Comparing two different pages of websites or two types of leaflet is not acceptable. Candidates can still be awarded some marks if they fail to describe all six documents, although the mark will need to be reduced to take account of this.

Other than when discussing house style, candidates should be comparing the similar documents from the three organisations, i.e. comparing like with like. When discussing house style, they should be considering common features used in the two documents from each organisation.

Writing style was too often confused with text style. Candidates need to consider the type of language used, i.e. whether it is formal or informal, informative, persuasive etc., not whether it is emboldened or in too small a font size.

Comparisons produced often lacked the depth required for the mark awarded. A sentence or two for each of the points required for each document is not likely to provide the depth required for mark band 3. Some candidates had produced very detailed descriptions and comparisons of the documents but had included little indication of what was good or bad about them or how well they met their purpose. Discussion of house style and suggestions for improvement were also limited. Candidates tend to score better if their report is structured under headings that relate to the task requirements.

Centres are reminded that the quality of the candidates' written communication is assessed through this task. In some cases, too little account was taken of poor spelling, punctuation and grammar when deciding what mark to award. It is not sufficient for candidates to simply run the spell checker, although this should be used as a matter of course, they should also proof read the work and correct errors not identified or those of punctuation or grammar.

Task b

Tasks b(i) to b(iv) should be assessed across all six communications created. The 'presentation' on methods of communication **must** be one of the six communications. It should, therefore, be planned drafted and evaluated as well as the other five. To achieve the top of a mark band, candidates must demonstrate the requirements of that mark band consistently across most, if not all, of the six communications. Too often, candidates had produced good planning and drafting, good quality final communications or detailed evaluations for a few communications but had 'gone off the boil' and failed to demonstrate the required consistency.

It is not necessary for candidates to produce excessive documentation to explain how each document has been created, although a few screen prints showing evidence of using templates, master slides, sound or video clips would make the moderation of task b(iii) easier.

Task b(i)

There are several aspects to this task; planning, development of drafts, accuracy checking and listing of sources. Lack of any of these aspects should reduce the mark awarded significantly. It is expected that even at mark band 1 the documents have been checked so that few obvious errors remain. This was often overlooked. Planning needs to be included for all six documents to achieve mark bands 2 or 3. For mark band 3 the planning must be detailed. Candidates should consider the layout, content and aspects such as font style and colour schemes. Only one hand-drawn plan is required for each communication. All drafts should be computer generated.

It is not sufficient to merely include draft copies. These need to be annotated to show what the candidate intends to do to improve them. This should include improvements to the layout and positioning of elements as well as proof reading the text. Again, annotated drafts should be included for all documents. Annotation often lacked the detail required or had been 'reverse engineered'. Good annotation and comments can contribute to mark band 3 of task b(iv). In some cases, candidates had provided step-by-step guides with screen prints to show how the documents were created. This is not what is required and does not fulfil the requirement for annotated draft copies. The listing of sources was often the poorest aspect of this task. At mark band 3, a detailed bibliography is required. This should include at least title, author, publisher and date published for printed material and, for web-based material, exact URL, date accessed, author (if known) and date last updated (if known). This was rarely seen in candidates' work.

Task b(ii)

Although it is not necessary to include extensive 'before' and 'after' printouts to show how information was located and adapted, some use of such printouts would help the moderator to confirm the marks awarded. Alternatively, annotation of the work to indicate which information had been located and how it had been adapted would do much to aid the moderation process.

To reach mark band 3, the communications should be of near professional standard. Whilst some very high quality communications were seen, some were quite poor but still awarded marks in this mark band. For maximum marks all six communications should be of a consistently high standard.

There were a number of instances this session of candidates including screen shots of documents, rather than printing out the final copy. This often resulted in a reduction in the quality of the image, making it difficult for moderators to confirm the marks awarded for this task.

Task b(iii)

Again, annotation would help to show the moderator where the automated features required by mark band 3 have been used. Alternatively, a few well chosen screen shots would help the moderator to confirm that automation had been used.

Centres are reminded that the key terms in this task are 'appropriate use', 'suit the purpose' and 'improve impact'. Candidates should not be awarded mark band 3 simply because they have used mail merge or a template. In addition, to achieve this mark band, candidates need to use a wide range of graphics and other media throughout the portfolio that are both appropriate and improve the impact of the communications. Simply creating a letter and saving it as a template does not provide suitable evidence for mark band 3. A template should include place holders for the user to insert the required details. Care is also needed that mail merge is used correctly and evidenced by including both the document showing the fields and a matching final copy – it is not necessary to include all the mail merged copies, although a copy of the table of data used should be included. For high marks in mark band 3, a range of appropriate automation techniques, such as master pages, styles and automated contents lists should be used.

As mentioned in the introductory paragraphs for this unit, the types of communication candidates are asked to produce will do much to aid or limit them in achieving marks in this task. More varied communications, such as multimedia presentations, web pages or newsletters, will give candidates greater opportunities to achieve higher mark bands. Assessors should consider the use of detailed witness statements to evidence the appropriate use of sound and video.

Task b(iv)

Candidates need to evaluate the communications they produce and their own roles and actions. The latter aspect was frequently missing. Mark band 3 requires candidates to carry out ongoing evaluation of their draft communications. Too often a mark in this mark band was awarded when the candidate had only evaluated the final versions of their communications or where they had simply described how the drafts had been developed. Candidates need to describe the strengths and weaknesses of each draft and their own performance in detail to achieve high marks in this task.

Task b(v)

This task should form the content of one of the six communications created, rather than being addressed as a separate entity. It requires an explanation of the methods of communication listed at the top of page 5 in the What You Need to Learn section of the unit specification. To achieve mark band 2 or 3, candidates would be expected to describe at least six of the communication methods listed. There was some confusion between types of information and communication methods. The technologies that support communication methods were often omitted or lacking the detail required.

Candidates are unlikely to be able to provide the level of detail required by mark band 3 in a slide presentation alone. The required detail could be provided in speaker notes to accompany the presentation. However, these need to expand on the information shown on the slide, not simply repeat it.

Centres are reminded that the term 'presentation' is used in its widest sense. Candidates might find it easier to provide the detail required by mark band 3 if they presented the information in a report or newsletter, rather than a slide presentation. The best work for this task was seen when candidates had produced a report, rather than a PowerPoint presentation.

Although candidates should be encouraged to research the methods of communication and the technologies which support them - including their relative advantages and disadvantages – they should not simply copy and paste articles from the Internet. Note taking and rewriting text from a number of sources into the candidate's own factual account should be promoted, as these are vital study skills which candidates will require at university. The sources used should also be referenced properly.

G042 – ICT solutions for individuals and society

Although better than in previous sessions, this unit, again, probably attracted more scaling than any other. This was largely due to a lack of suitable evidence to show what candidates had actually done. Candidates need as much guidance on how to present their evidence as they do on how to search for information, analyse it and present results. In some cases, candidates had aimed their evidence at mark band 3 and failed to include the required evidence of development through the task. However, some centres had 'got it right' and candidates had produced excellent evidence.

Centres are reminded that all of the tasks, with the exception of task b, should relate to a single investigation.

Task a

Although some good evidence was seen for this task, some was very poorly structured, making it difficult to determine what searches candidates had carried out and what information they had found. Screen shots were often too small for the moderator to read the search criterion entered or the screen shot did not include the criterion. In some cases, candidates were using a totally different search topic to 'test' which search engine is best before using one for their investigation. This is not appropriate as the results will be subject specific and the search engine they find the best in their testing may not be the best for the subject of the investigation.

Candidates need to be systematic, starting by clearly defining what they are looking for and then initially using simple searches, progressing to the use of the advanced search facilities and then building their own search strings using logical operators. Whilst it is not necessary to print out and include all the information found, candidates do need to indicate the results obtained from each search and to compare the results of similar searches using different search engines. This refinement of searching will also allow candidates to address the criteria for mark band 3 of task g.

To reach mark band 2 the advanced search facilities must be used, while mark band 3 requires the use of logical operators in the standard search box. Many candidates had approached this task 'back to front' by using logical operators and then going back to using advanced search facilities. The intention was that candidates use the advanced search facilities and discover the functions they offer before realising that similar searches can be carried out by using logical operators in the standard search bar. In some cases, mark band 3 had been awarded when it was clear that the logical operators were those included by the search engine as a result of carrying out an advanced search. Too often, logical operators were being used within the fields of the advanced search option when the whole point of the task is that more efficient searching is carried out by using these operators in the standard search box, rather than using the advanced search options.

Too often also, poor use had been made of both the advanced search facilities and logical operators. Entering a single word in the 'exact phrase' box, for example, is unlikely to make much difference to the search results, as is the use of AND in Google or any operator in lower case. Google and other search engines provide useful help on the use of operators and candidates should be encouraged to follow this guidance. Candidates should also be encouraged to use a range of operators including OR or NOT (-), as well as AND (+). Too often, candidates used NOT in a search and made no comment on the fact that the term they were trying to exclude appeared in the very first result. The use of – might have achieved the result they were aiming for. Similarly, quotes need to be used around phrases to achieve the most benefit, e.g. "sports centres" +Coventry –"Alan Higgs Centre".

Mark band 2 requires a comparison of results as well as the use of advanced searches, while mark band 3 requires justification of the most appropriate search engine. We would expect candidates working at mark band 3 to show progression from mark band 2, i.e. they need to show the use of the advanced options of more than one search engine and compare the results to inform their choice of the most appropriate.

Task b

There was some misunderstanding of the requirements of this task. It requires discussion of the impact of the availability of electronic information, not the impact of ICT in general or the advantages and disadvantages of the internet. This session again produced a number of reports entitled 'How organisations communicate', i.e. centres had addressed the mark band 3 criterion, rather than the banner of the assessment evidence grid which asks for 'an explanation of the availability of electronic information on individuals and society'. The resultant report often related more to the requirements of task b(v) in G040 than this task. At the most basic level, candidates should identify that the Internet provides a means of seeking information quickly at the touch of a button rather than looking it up in several encyclopedia volumes. In terms of e-commerce, it is not

easier for people because it offers cheaper prices – it is easier because we can find the prices (information) from several retailers without physically visiting their shops.

Candidates tended to describe how the Internet is used for shopping, banking and other tasks, rather than the impact on the people using these services. The impact on society for mark band 2 was rarely more than a generalisation of the material discussed in relation to themselves and their family. Mark band 3 requires detailed explanations of the methods organisations now use to communicate with individuals and society and how this affects people who do not have or want access to electronic communication. Whilst candidates could often identify those who don't have access and why this is so, explanation of the impact this has was often limited.

As with task a in G040, insufficient account was taken of poor spelling, grammar and punctuation when awarding marks for this task. A few centres had required candidates to concentrate on one particular website or method of using electronic information. This does not meet the requirements and limits candidates' discussion. A more general report is required. Similarly, detailed descriptions of different public service websites and how they might be used does not fulfil the requirements, although this may provide a good teaching strategy.

Centres are reminded that this task can be separate from the main investigation. Where candidates tried to incorporate it into the main investigation results were often poor.

Task c

This task requires evidence of the use of a large website to find required information. The information required needs to be identified and candidates then need to provide evidence of how they located it. Candidates should include screen shot evidence of how they found the required information. A witness statement should also be included to confirm that this was done independently or that the candidate needed help to find it.

Task d

This task requires evidence of complex searches involving both relational (= > < etc) and logical (AND, OR, NOT) operators. For mark bands 2 and 3, both online and local databases must be evidenced. Evidence of searching online databases may be linked with task c if an internal search engine has been used, but not to the use of generic search engines in task a. Most online databases will provide an internal search engine. Where it is possible to select two or more criteria, this is equivalent to AND, and if several options are selected within one criterion, this is equivalent to OR. We would expect to see complex searches of this nature, so candidates should be encouraged to use websites that provide an advanced search facility. It is unlikely that most internal search engines will recognise Boolean operators if candidates try to enter these in the standard search box.

As with some of the other tasks in this unit, screen prints to show the search criteria used must be large enough for the moderator to read properly.

For the local database, it is not sufficient to use a table in a spreadsheet as it is not then possible to easily demonstrate the required complex searches or to present the results as a database report. Whilst logical and relational operators can be used in custom filters in a spreadsheet package, candidates are limited to mark band 2 due to the lack of reporting facilities – a pivot table, for example, does not meet this requirement.

Some care is needed in developing local databases for candidates to search. These need to contain sufficient data to make searches meaningful. It is not necessary for candidates to create their own local database. Indeed, when they do, they tend to concentrate on this aspect, rather than the required search techniques.

Candidates must include screen print evidence of the queries they set up in design view. For higher marks we would expect to see a number of different complex searches. Reports produced to achieve mark band 3 must be fit for purpose and must be printed out, rather than simply screen printed. For maximum marks, the database reports produced must have meaningful titles and suitable layouts to ensure the data being presented is visible and understandable. Rather than simply using the report wizard, candidates should access reports in design view so that they can adjust column widths and the alignment of data, and edit titles and column headings so that it is clear what the report shows.

Task e

Although some good spreadsheet evidence was seen, many did not demonstrate sufficiently complex analysis. Candidates must evidence the functions and formulae they use by formula printouts or other suitable methods. They also need to show **evidence** of testing, not just a table stating that the results were 'as expected'. The testing should show that formulae and functions return the expected result, not just that macro buttons work. Candidates should use dummy data that makes the results easy to check. This means copying the spreadsheet and substituting simple data, eg 1s, 2s or 10s, so that it is easy to see whether the formula works or not.

This is a task where candidates would benefit from guidance on how to present their evidence. Too often it was difficult to determine what the spreadsheet was designed to do, how it appeared on screen or how the various sheets were linked, if at all. Macros need to do more than simply move from sheet to sheet. The mark band 2 criterion requires macros to speed up the input of data and the production of results.

Task f

This task requires candidates to draw all the information they have found together to answer the investigation question. As such it should be a stand-alone document. As in G040, the term 'presentation' should be taken in its widest sense. The task cannot be assessed across the whole portfolio.

The presentation should present what the candidate has found out, not how they have gone about finding the information, which is the subject of the rest of the portfolio. Although this was better than in previous sessions, too often the presentation for task f simply repeated the methods, using screen prints of searches and how the spreadsheet was created. In some cases the headings were the six types of information listed in section 3.2.6 of the unit specification. Whilst this may ensure that all six are included, it will not produce a well thought out presentation that presents the investigation results coherently. Where candidates have not addressed an individual investigation, it becomes difficult for them to produce the evidence required for this task. Also, if candidates have not listed their sources it is difficult to award any marks for this task as it is impossible to ascertain how many they have used. Mark band 3 requires a detailed and correctly structured bibliography. The same details are required here as for task b(i) in unit 1. This should relate specifically to the presentation of results and not the whole portfolio.

One of the requirements of this task is that candidates combine different types of data. They will not achieve this if they simply screen print their spreadsheet, charts and other information, as all they are then doing is combining a graphic with the text. Candidates should import or copy and paste the charts, spreadsheet tables and other data as far as possible.

Task g

Evaluations for this unit were weak. It is the methods used to find information and present results that should be evaluated, rather than the outcome or a task by task evaluation. Too often, evaluations were simply descriptions of what candidates had done. For mark band 3, this evaluation should be ongoing rather than just at the end. Some evidence may appear in task a, but this must be clearly identified and cross-referenced if credit is given. Even when candidates had provided ongoing evaluation of their search methods, ongoing evaluation of and refinements to the presentation of results was often omitted.

G043 – System specification and configuration

Tasks a and b are two separate stages of the specification process and cannot be interwoven. Task a requires candidates to investigate and describe in detail what the user wants to do with the system they will specify. This should include detailed descriptions of all tasks together with details of what data will be input and how the output will be presented. This should **not** include consideration of input and output **devices** or the software required, which form part of task b. For maximum marks in task a, all types of input and required output should be included.

In task b, candidates should use these detailed requirements to specify a system that can carry them out. The hardware specification should be complete (a processor without a motherboard or tower unit is not much use), up-to-date, compatible and include full details of each component being recommended. However, candidates should be discouraged from simply copying and pasting the technical specification from a website. Rather, they should indicate the size, speed etc., and justification of why this particular component meets the user requirements. As well as specifying the hardware and software required, candidates must include the specification of any required configuration, e.g. which parts of the operating system will be installed, which background will be used on the desktop, which time zone and language will be used, and, for mark band 3, detailed designs of toolbars, templates, menus and macros. All of this should form a stand-alone document that could be presented to the user for their approval. Too often high marks were awarded when the specification lacked detail and the configuration requirements had been omitted.

Photographic and/or screen print evidence backed up by a detailed, signed and dated observation record would improve the evidence for the practical tasks in task c. However, to be of value, observation records need to include individual comments on the tasks each candidate has performed and need to reflect the mark awarded. The evidence must include configuration as well as installation of both an operating system and applications software. Whilst it is recognised that practical activities may be limited by the equipment available in the centre and, consequently, may not match the system specified in task b, candidates still need to create a working system that matches the user requirements as closely as possible. Candidates must include a test specification and evidence of testing to go beyond mark band 1. To achieve mark band 3, the testing must be thorough and there should be clear evidence of how candidates overcame problems found as a result of testing. Testing seen often lacked the detail required for the marks awarded.

Similarly, candidates need to include clear evidence of the design of templates, toolbars, menus and macros and annotated screen prints or printouts of those that they create. Any screen prints must be large enough for the content to be read. All four items must be evidenced and, to go beyond mark band 1, there must be evidence of testing. For mark band 3, the installed templates, toolbars, menus and macros must be those designed by the candidate and must demonstrably improve the efficiency of the user. An explanation of how the user's efficiency would be improved would be helpful here. Simply adding or removing icons to or from a standard toolbar does not constitute installing one and templates should include placeholders so that the user knows what to enter where.

Task e is best evidenced by a report or handbook for the user on health and safety and security issues. It should cover the content of section 4.2.4 in the unit specification. While most ergonomic issues were covered, management issues were rarely covered in sufficient detail particularly when mark band 3 was being awarded. As with task a in G040, insufficient account was taken of poor spelling, grammar and punctuation when awarding marks for this task.

More centres are correctly addressing task f, although a little more detail is required. Centres should refer to section 4.2.3 of the unit specification. However, some candidates are still including descriptions of the stages of the Systems Life Cycle. This is not acceptable.

Evaluation was weak for task g. Candidates must evaluate both their specifications and the methods they used for installation, configuration and testing. It might help if these were treated as two separate evaluations. The first could appear immediately after the specification and consider how well it meets the needs of the user as identified in task a. The second could be produced immediately after completing the practical tasks and consider how they went about them, any problems that arose, how these were overcome and how they might approach a similar task in the future. As with other units, for mark band 3 this should be ongoing.

G044 – Problem solving using ICT

The entry for this unit was comparatively small, resulting in only a small number of centres being moderated. Some candidates had made a reasonable attempt at producing the evidence required, although there were also some serious misconceptions. The majority of centres used one of the scenarios issued by OCR or based their own scenario on one of them. In some cases, the solution related too specifically to hardware and networking, without considering the software aspects.

Where candidates gained low marks, it was often because they simply regurgitated theory, rather than applying it to the scenario provided. This approach also increases the possibility of plagiarism. Although weaker candidates had clearly only used the information provided in the AS textbook, more able candidates had carried out thorough research on types of information, types of software and quality procedures and had applied this to the scenario. There were good examples of system diagrams, although explanations of the system boundaries and environment lacked detail. Evaluation was also a weak area. Candidates must detail the goals, aims and objectives of their solution in task b, so that they can evaluate, in task g, whether these have been met.

G045 – Software development – design

Evidence submitted for this unit was generally of a good standard, although there were some centres that had assessed it somewhat leniently. Despite the title of this unit, some candidates described alternative hardware, rather than software, solutions.

There are two parts to the assessment evidence for this unit. Tasks a, b and c are theoretical, identifying and describing the tools and techniques available. Task d to g relate to the solution of a given problem. Where centres had attempted to combine these two aspects, candidates rarely covered the requirements of tasks a to c sufficiently.

Tasks a, b and c

To achieve mark band 3 for these tasks, candidates need to research the tools and techniques available so that they can describe a wide range, possibly going beyond those listed in the unit specification. Although there is overlap between the stages, candidates were often confused as to which tools are used for analysis, which are used for design and which are used for investigation. It may help to consider section 6.2.3 of the unit specification, as far as the penultimate bullet list on page 72, in relation to task a. Although they can form part of analysis, decision tables, flowcharts and structured English are often part of system design, so task b should include these and the content of 6.2.4. Task c should include the content of 6.2.2. To gain mark band 3, candidates should explain the advantages and disadvantages of each tool or technique and how it might be used – examples for the given problem can be included here.

Task d

The report for this task should include both feasibility and design. The latter was lacking in some cases. Candidates must include designs for input screens, output screens and reports. The latter should include consideration of any calculations required to produce the output. As indicated above, the alternative solutions should relate to software rather than hardware, although some consideration of hardware should be included. While some excellent reports were produced with detailed alternative solutions and full consideration of technical, economic, legal, operational and social feasibility, others provided very limited alternatives with only a passing consideration of costs and benefits. The number of marks available for this task should be taken as a guide to the depth of evidence required. As with task a in G040, insufficient account was taken of poor spelling, grammar and punctuation when awarding marks for this task.

Task e

Most candidates attempted to produce DFDs using formal graphical representation with varying degrees of success. Both level 0 and level 1 DFDs are required for mark band 3. These need to use consistent symbols. The flows/entities represented on the Level 0 must be matched by those expanded in the Level 1, showing a full and complete representation of the current system. Level 1 diagrams did not always match the Level 0 diagram. All external entities, data stores and processes must be shown with the links between them being correct. However, mark band 3 was often not achieved because the documentation lacked the detail required – processes were often omitted. All entities, processes, stores and data flows need to be described in detail to achieve mark band 3. Also, in some cases, there were clear errors in the diagrams produced, such as no indication of the direction of data flows or diagrams with entities and processes but no data stores.

Task f

Again, although some good ERDs were seen, the documentation limited the mark awarded. A detailed data dictionary should accompany the ERD to reach mark band 3. A number of ERDs were seen that contained obvious errors, such as entities with several relationships between them, foreign keys turning into primary keys and strange circular relationships, or where many to many relationships had not been resolved. Such diagrams are not acceptable for mark band 3 or even, in some cases, mark band 2.

Task g

This task requires candidates to evaluate both the solution and their own performance. Whilst there was sometimes good evidence of one or the other aspect, there was rarely good evidence of both.

G046 – Communicating using computers

The work submitted for this unit was generally appropriate and in most cases had been accurately assessed, although there was some lenient assessment.

Suitable organisations had been investigated for task a, although candidates did better when they investigated a real organisation, such as their school/college, rather than using case study material. However, whilst it is clearly convenient to base this task on the centre's use of the internet and an intranet, candidates should be given the opportunity to investigate other organisations' use of these facilities where possible. The organisations' objectives were rarely stated overtly. Candidates must describe advantages and disadvantages of both internet and intranet use, as well as suggesting improvements to both to achieve mark band 3. Some candidates had confused an intranet with a shared network drive, particularly when describing their own centre's use. The two are not synonymous and candidates must be taught the distinction between them. It should also be noted that it is the **use** of the internet and intranet that is to be evaluated, not the organisation's website and the structure and layout of its intranet.

Centres should refer to section 7.2.6 to identify what is meant by 'internet technologies' for tasks b(i) and d(i). Discussion of HTML is not sufficient. In task b(i), candidates need to identify and explain the technology in relation to the website being described. This can best be achieved using an annotated screen print of the web page where the technology is used, or snippets of code showing the use of the technology. In task b(ii), marks were awarded somewhat leniently. Candidates need to do more than simply identify that a particular section of code produces a table or a hyperlink to reach mark band 3. They should explain how the various tags are used and how they translate into the features seen in the browser. Candidates do not need to include the entire code for each of the three pages. They could include a screen print of the page as shown in the browser along with **a number** of relevant sections of the code that they can then explain in relation to the browser image. However, care is needed that a sufficient range of different features have been explained. The web pages annotated should be part of the website discussed in task b(i), rather than an entirely different site or one they have created.

Task c was often the least well evidenced. Candidates tended only to consider the costs of hosting the site online. Frequently, bandwidth was given little consideration and candidates failed to describe a range of connection methods, hardware and software. Bandwidth calculations are not about how fast a connection is, it is working out how big a page is and how many potential hits it could get – upstream, which is what a web server needs was often forgotten about, and download speed was considered instead. The hardware and software should be that required to produce the website and host it locally. This will include a web server and software, as well as web design software. Peripherals such as printers and sound cards are not relevant to this task. As in other units, insufficient account was taken of poor spelling, punctuation and grammar. This task should be a single coherent report, rather than a number of disparate sections including material downloaded from websites.

In task d(i), candidates must identify the internet technology they have used in their web page to achieve mark band 2. Evidence that the site has been uploaded is required for mark band 3. Task d(ii) is about evaluating how they approached the development and uploading of the web page, rather than the web page produced. There was insufficient detail in some cases.

It is not possible to cross reference the descriptions of hardware, software etc. for task e to those for task c, as task c relates to hosting a website, while this task relates to simply accessing the internet and sending and receiving emails. For maximum marks, candidates need to produce a high quality user guide for installing and configuring the communications software. This should be separate from the evidence that they actually carried out the installation. A detailed witness statement is helpful to confirm the installation and configuration tasks. Care is needed as to what is considered communications software. Compression software, for example, is not communications software, although it may be beneficial to reduce the file size of attachments. Likewise, virus checking software, while essential on any computer connected to the internet, is not communications software. Also, simply configuring an email client that already exists on the system is not installation. There are many freely downloadable browsers, email clients and instant messaging applications that can be installed for this task.

G047 – Introduction to programming

Although some candidates who submitted work for this unit had been well taught and produced suitable evidence, others had followed a very minimalist approach. If all that candidates submit is the annotated code that they have produced, the Moderator cannot determine whether the programs actually run, making it difficult to confirm the marks awarded in both tasks a(i) and a(iii).

Candidates should state clearly what user need each program is designed to meet, so that the Moderator can judge whether the program meets the requirements. They should also be encouraged to include designs for the program, both in terms of the structure of the code and screen design. Although not overtly part of the assessment evidence, this is good programming

practice. As well as the annotated code, candidates should include a test specification and evidence of testing to show that the program runs as designed. At the very least they must include screen prints to show stages of the program running.

Also, although the evidence requires a number of simple programs, many were too simple, generating only a few lines of code. Programs should be sufficiently complex for a range of programming techniques to be incorporated. Clearer evidence of the use of modularity and file handling is needed for mark band 3 of tasks a(i) and a(iii). In particular, when using VB, candidates would be expected to write and call procedures, rather than simply using the subroutines associated with a button. Evidence of annotation is often clearer if the code is copied into a word processed document so that comments can be added in a different font style, colour or attribute to distinguish it from the code. It is very helpful if the assessor annotates the code to indicate where particular techniques have been used.

Although most candidates had used a version of visual basic for task a, a variety of languages were used for task b including Java, Pascal and C. Most of the programs provided for task b were suitable, with many centres using one of those provided in the sample assignments. However, in some cases the programs were too simple for candidates to demonstrate the understanding required for higher mark bands. Candidates **must** annotate the program listings to gain marks in any of the three sections of task b. This must use a different programming language and cannot be the annotation of the programs written for task a. They must use ICT tools to do so. This may be either the comment tool in the programming language or, as suggested above, comments entered using a word processing package. To be awarded marks in mark band 3 of tasks b(ii) and b(iii), candidates must provide detailed explanation of the code, for example the purpose of a sub-routine and how it is called by the program. There should also be no errors or misconceptions in the explanations. As well as actually annotating individual lines of code, candidates should give some indication of what the program is designed to do. Candidates would benefit from being given the code to enter, compile as appropriate, and run, so that they can see what it does and how the code relates to this.

Task c requires evaluation of the programs in relation to the user's needs, evaluation of the suitability of the programming languages used and evaluation of the candidate's own performance. Coverage of all three aspects was rare in most of the work seen. If there is no indication of what the user requires of the programs written for task a, it is difficult for candidates to evaluate how well those needs have been met and for the Moderator to determine the accuracy of comments made. It is not necessary for candidates to implement any improvements suggested, although many had done so.

Principal Moderator's Report A2 H515/H715 GCE Applied ICT

Introduction

The introduction to the report for the A2 units should be read in conjunction with the introduction to the AS reports as many, if not all, of the issues are common.

A small number of centres failed to detail their assessment decisions. All portfolios should have a fully completed Unit Recording Sheet (URS) with a comment to explain the marks awarded for each task. Page numbers should be completed on the URS. Due to the absence of any teacher annotation indicating the awarding of mark bands it was difficult to confirm in some cases that these had been awarded appropriately. Although annotation is not essential, its appropriate use is very helpful and is an example of best practice.

Centres are reminded of the importance of meeting the deadlines for the submission of marks to moderator and the board as well as the requirements to send the sample of coursework requested within the timeframe specified in the correspondence. The majority of centres this session met the deadlines.

Unit G049 Numerical Modelling Using Spreadsheets

For this unit candidates were required to produce:

- a design specification that analysed a suitable problem and described how they would solve it by numerical modelling;
- evidence of implementing their solution using suitable entry aids and processing facilities;
- a record of how they overcame their problems;
- a specification for testing their spreadsheet, and evidence of the results of these tests;
- technical documentation that explained how their spreadsheet works, and user documentation that explained how it is used;
- an evaluation of the effectiveness of their solution and their personal performance.

A small number of centres continue to fail to identify that the emphasis of this unit is on numerical modelling rather than data manipulation even though this has been fed back in every Principal Moderator report for this unit. However, it is pleasing to note that the proportion of centres in this category is lower than in previous sessions. The problem that the candidates attempted to solve must provide the opportunity for significant numerical processing. Using a spreadsheet to simply store and present information, e.g. database solutions that involve little or no data processing are not suitable for this unit.

The design specifications produced by a number of candidates lacked the necessary detail. At the simplest level, these must incorporate consideration of user requirements, data sources, processing to be carried out and output to be generated. More able candidates incorporated ideas for screen layouts, identification of spreadsheet layout, spreadsheet facilities to be utilised and considered how the numerical processing aspects of the solution met the user requirements. Candidates achieving high marks for task a must produce a specification that is detailed enough to enable a competent third party to implement it independently.

The solution implemented in task b by some candidate showed clear evidence of the use of complex spreadsheet facilities, as listed in section 10.2.3 of the unit, as well as clear evidence of a range of spreadsheet functions appropriate to the solution of the problem. Some centres awarded high marks for task b when there was little or no evidence of the use of specialist

numerical processing functions and complex spreadsheet facilities, therefore marks were adjusted accordingly. Annotation of printouts or a commentary detailing the spreadsheet solution provided clear evidence of the use of the spreadsheet facilities and functions. This in turn provided evidence towards task c, the strategy for implementing the solution. Where no clear evidence could be found, often due to lack of annotation, marks were adjusted downwards as the moderator could not easily locate the use of the functions within the spreadsheet solution.

For task c, the evidence presented often lacked details of the problems encountered by the candidate whilst developing the spreadsheet solution and how these were surmounted. Testing the spreadsheet solution in task d was carried out poorly by the many candidates. There should be clear evidence of planning the testing to be performed. This should address testing functionality with the use of normal, abnormal and boundary data.

The technical and user documentation produced for task e need to be separate documents as they are for different readers. The technical documentation must be sufficiently detailed to allow somebody to maintain or amend the spreadsheet. In many cases the documentation provided would not allow this to happen.

A small number of candidates performed well in mark band 3 in task f. In some cases the evaluation was descriptive rather than critical, restricting marks that should have been awarded. Candidates must refer back to the initial requirements of the problem and, in order to access the higher mark bands, consider feedback from users and relate to the design specification.

G050 Interactive Multimedia Products

For this unit candidates were required to produce:

- a review of two commercially produced interactive multimedia products showing how their design influenced the design of the interactive multimedia product that they produced;
- detailed designs, of which one is chosen as the design for the final product;
- a multimedia product to meet the client's requirements;
- a detailed test plan;
- a detailed user guide;
- a review of both the interactive multimedia product that they produced and their personal performance.

A number of centres still need to give careful consideration to the software used to evidence this unit. Section 11.2.4 indicates the types of interaction that could be incorporated into the final product. Not all multimedia software will facilitate the majority of these. It was noticeable this session that more centres appeared to use more appropriate software for the production of the interactive multimedia product. The design of a website is not appropriate; candidates wishing to design websites should undertake G053 Developing and Creating Websites. The unit specification makes it clear that this should be a standalone product; task e requires evidence of the system requirements and how to install and use the product, none of which are fitting for a website.

In order to access the higher marks in task a, candidates must evaluate the commercial multimedia products, rather than describe them. There must also be a detailed explanation of how the product influenced the design of the product that the candidates produce. A number of candidates evaluated websites rather than multimedia products. This disadvantaged candidates as many of the sites only demonstrated hyperlinks and the candidates did not have the opportunity to consider the user documentation, bearing in mind that they have to create user documentation for their own product in task e. Regrettably the evaluation produced often provided little or no evidence for task a. If a candidate chooses to evaluate a web-based product for one of the products, centres must ensure that it contains elements outlined in section 11.2.4

of the unit; otherwise the candidate will not be able to incorporate such elements into the design, based on the evaluation of the product. Evaluation of two web-based products is not appropriate as candidates are unlikely to have appropriate exposure to sufficient user documentation for multimedia products, disadvantaging candidates.

For task b(i) some candidates produced plans for completely different products. The requirement is to produce different designs for the same product. Content must be considered as part of the plan to access higher marks; some plans seen in this session contained very little indication of content.

Task b(ii) required a critical analysis of the designs in order to access higher mark points, not just a description of the designs. Good and bad points of each design need to be identified and a reasoned argument presented to explain why the final design was chosen by the candidate and how it met the needs of the client.

Task c(i) required evidence of the use of a variety of ICT skills to produce a multimedia solution. The nature of these skills is identified in section 11.2.4 of the unit. Candidates should annotate their evidence to explain how the skills have been used and the how the skills are aiding the development of the multimedia product.

Task c(ii) required the candidate to bring together the various components into a complete solution. This is where the nature of the multimedia software may restrict the nature of the product developed. A small number of centres continue to allow candidates to create products that are mainly text and image based with little or no interaction.

The testing of the product for task d was carried out well by a minority of centres. The candidates needed to test not just the functionality of the product, but the fact that the product met the requirements of the design specification.

Task e required candidates to incorporate installation instructions as part of the user guide for the product. Candidates are encouraged to incorporate images within their user guide in order to clarify the steps within the user guide. As already indicated, the user guide needs to include details of the system specification for the product and details of how to install the product. Some candidates omitted to explain what the purpose of the multimedia presentation was.

For task f the candidates must critically analyse their solution in order to access the higher mark points. More able candidates provided evidence of obtaining feedback from users that tested the product, as well as providing clear evidence of linking the product to the design specification.

G051 Publishing

For this unit candidates were required to produce:

- notes taken during an initial, and any subsequent, meeting with a client, evidence of negotiating and amending a brief for the production of a camera ready copy (CRC) document;
- evidence of the drafting and production of a CRC of their final document to meet the brief and, in so doing, show that they could create and capture images, as well as import material from other packages, utilise object libraries such as clipart, and select and further develop images to meet the style and content of the final copy, as negotiated with the client;
- a CRC document, of at least ten pages, that combined different types of information presented to the client for approval, together with a letter which correctly described the final production stage and external factors which may affect completion of the final published document;

Report on the Units taken in June 2009

- an evaluation of both the layout and content of their final copy and their performance.

It is important that candidates address all parts of the unit rather than concentrate on the production of the CRC document; some candidates did not sufficiently document the processes involved.

The evidence of the meeting(s) with client varied greatly in evidence presented for task a. If the candidates cannot access real clients, then the teacher, or other suitable person, should act as the client.

It is a requirement of mark band 3 in task b(i) that candidates explore different means of presenting the same information and use a comprehensive range of editing and manipulation tools. Some candidates were awarded marks in mark band 3 when there no evidence to support this.

Evidence for task b(ii) frequently lacked evidence of the design stage processes. To access marks in mark band 2 there must be explicit evidence to include the following:

- sketching different initial document designs;
- following housestyle;
- creating master page layouts;
- presenting page proofs;
- producing artwork sketches;
- setting text orientation;
- creating style sheets.

Annotation of evidence generated enable candidates to access mark band 2, whereas accompanying explanation will enable candidates to access mark band 3.

Higher marks in task c(i) required clear evidence of using more than four text styles, more than two text attributes and editing a piece of imported text. This is best evidenced through careful annotation of the evidence as the evidence should be explicit rather than implicit.

Task d requires analysis of the CRC and how the solution was refined to meet the client's needs. Candidates in mark band 3 will produce a critical analysis of the development of the product. The will be an evaluation, not a description, of the candidate's role in the development of the solution.

G052 Artwork and Imaging

For this unit candidates were required to produce:

- a portfolio of artwork samples produced to demonstrate a range of artwork skills;
- evidence of the development of computer artwork, using a variety of graphics software, following negotiation of a brief from a client, from initial ideas to final product accepted by the client, to include:
 - a range of initial proposals in response to a complex problem;
 - development of a final product, showing editing techniques;
- an evaluation of both the final product, including consideration of the hardware and software used, and their own performance.

In task a, some candidates failed to includes samples of artwork produced covering the range listed on the assessment grid. A small number of candidates included material which they had not produced, but taken from other sources. Mark band 3 was achieved in only a small number of portfolios as few candidates explored the development of the materials using advanced editing and manipulation techniques. It should be noted that it is not necessary to provide step-

by-step screenshots explaining how the original images were produced. The referencing for task a must relate solely to the portfolio of artwork and must not include reference to the product developed for the client.

A small number of centres did not ensure that an appropriate product was created for the client. Candidates are required to develop **artwork**, not publications, presentations, web pages or other such products; other units exist within the GCE Applied ICT specification addressing the development of such items and such evidence should be used for these units.

Task b(i) was poorly evidenced by many candidates as the sketches, in response to the client brief, were very brief and in many cases did not consider the capabilities of the software. In some cases, it was not clear if the client existed; if there is no opportunity for a real client, then the teacher or other suitable person should act as the client. Task b(ii) was difficult to achieve if task b(i) was poorly evidenced, as it was not easy to comment on the strengths and weakness of the designs. Mark band 3 required critical analysis and not just descriptive comments. Task b(ii) requires explicit evidence that ICT skills have been developed. A diary can help to evidence this, or alternatively annotated screenshots can provide evidence. Evidence for task b(iv) varied greatly as some candidates provided clear evidence of the development of the final product, including manipulation of material as part of the process.

Task c required a critical analysis of the final product, identifying how well it met the brief. Some candidates made little reference to the brief and some omitted to mention the printer, media or resolution. Candidates that appeared to have limited experience on working with computer artwork found it difficult to reflect critically on the final product and identify how weaknesses could be tackled in future briefs.

G053 Developing and Creating Websites

For this unit candidates were required to produce:

- an evaluation of commercial websites that have been downloaded;
- design notes for their website of at least three pages together with detailed plans for publishing the website;
- annotated print outs of their own web pages in WYSIWYG format identifying the features and techniques used in the web page;
- annotated printouts of their own web pages in HTML format identifying edits to script commands to change page layout;
- documentation of website testing;
- an evaluation both of their website and the tools used to produce it and of their own performance.

For task a, some candidates failed to explain the reasons for choosing, or not choosing, features in web pages examined, as required to access mark band 2. In order to access mark band 3, there must be a critical analysis of the web pages examined. Frequently, the evidence provided was solely a description of the web pages visited, meeting mark band 1 requirements.

In task b, candidates were required to identify domain names suitable for the site and, in order to access higher mark points, explain the reason for this name and provide alternative options. It was pleasing to see that a number of candidates had actually uploaded the site designed. Task b also required structure diagrams, a storyboard, an index of pages and a task list/action plan. Frequently some of these components were missing from the candidates' work; the most common omission was the index of pages in the website.

In task c, to secure mark band 3, a full explanation is required to explain the design techniques, hyperlinks, multimedia and interactive features used.

Evidence of understanding HTML script in task d was implicit rather than explicit in a number of portfolios. For mark band 2 candidates were required to edit script commands. Evidence to support this could include a 'before' and 'after' screen shot of the implications of the changes as well a narrative to describe the changes. Mark band 3 requires evidence of adding script commands to include at least two from graphic, table or hyperlink. A number of candidates concentrated on embedding scripting language code, such as JavaScript, rather than editing (mark band 2) and adding (mark band 3) HTML script. The use of JavaScript contributes to task c and not task d.

In task e a small number of candidates failed to ensure that the website met the design specification. Explicit evidence of this is required. It is useful if candidates include 'before' and 'after' screenshots if changes are required to the website as a result of testing.

Task f required candidates to produce a critical analysis of their website in order to gain higher marks. An analysis of the candidate's own performance was also required. In many cases the evidence was a description of what they had undertaken, rather than a critical analysis.

Unit G056 Program Design, Production and Testing

For this unit candidates were required to produce:

- a program specification to meet the given requirement and describe how the specification meets the program requirements and how user's needs have been considered;
- a program design arising from the specification;
- an annotated modular program to realise the design;
- test documentation including a test plan with valid, invalid and boundary data, expected results, actual results and changes identified as a result of testing;
- a program review and evaluation report including an evaluation of their own performance.

Only a small number of candidates were entered for this unit.

In task a, some candidates had only briefly identified input, processing and output, however, this could have been more detailed and would have helped to develop the specification. Some candidates provided little evidence of development of ICT skills within this task.

In task b, a clear description of design work is required - addressing processes, input, output, validation, verification, data structures and file structures. A small number of centres failed to ensure that candidates addressed all of these.

Candidates must include evidence in task c to show that they have produced a fully working program.

Explicit evidence of testing is required in task d. Evidence presented by some candidates was minimal. Sometimes, whilst a test plan had been produced, there was no clear evidence of boundary data being tested.

To achieve mark band 3 in task e, the evaluation must be critical. Often the evaluations produced by candidates identified some strengths, weaknesses and areas for improvement with some user feedback, but often lacked depth and critical content.

G057 Database Design

For this unit candidates were required to produce a relational database to meet a given specification requiring at least three related tables supported by design and analysis notes, technical and user documentation and an evaluation of the database produced.

Their evidence to support this should include:

- design and analysis notes, including normalisation of the data model;
- a user interface, including data input forms and methods of obtaining output;
- a working relational database;
- user and technical documentation;
- testing of the database produced;
- an evaluation of the database;
- an evaluation of their own performance.

In order to access mark points beyond mark band 1, candidates must produce a correct entity relationship diagram and, for mark band 3, define the data model clearly and show that it is correctly normalised to 3rd normal form (3NF). Some candidates failed to provide clear details of the entities, attributes, keys, relationships and internally generated or processed data. It should be noted that the use of 'autonumber' primary keys in all entities is unlikely to be an appropriate solution to the database problem. This session, there was stronger evidence presented to explain how the model was normalised.

The data input forms for task b required evidence of data validation and should have been fully labelled in order to access mark band 2. These should also incorporate pull-down lists and labels. More able candidates demonstrated the use of forms allowing data entry into multiple tables and customised the database to hide the underlying software.

Candidates were required to evidence the manipulation of data in the database and use queries and reports for task c. More able candidates designed reports with evidence of grouping, arithmetic formulae and used data from more than one table, accessing mark band 3.

The database documentation in task d must enable somebody else to maintain the database. There was little evidence of the use of software generated technical documentation; such documentation does not demonstrate an understanding by the candidate of the evidence generated unless it is annotated. Design documentation created by the candidate often showed a greater understanding of the design of the database for task d.

Testing of the database in task e must include evidence of testing both functionality and rejection of data outside the acceptable range. Where input masks have been used as part of the solution, these must also be tested.

The reflection of how well the database met the specification needed to be a critical evaluation, rather than a description, if the higher mark points are to be accessed. Likewise, the analysis of the candidate's performance needed to be more than descriptive in order to access higher mark bands.

G058 Developing and Maintaining ICT Systems for Users

For this unit candidates were required to produce records of specifying, upgrading and repairing ICT systems, to include:

- records of interviews with two different users to identify their key requirements;
- detailed specifications for an ICT system for each user along with explanations of the reasons for selecting particular components in non-technical language;
- records of carrying out an upgrade involving selecting and adding a new component to a system;
- records of carrying out an upgrade by replacing a component in a system;
- records of troubleshooting procedures carried out to identify faulty components;
- an evaluation of the information sources used to find information on components;
- an evaluation of the specifications and approaches taken to specifying, upgrading and repairing systems.

User needs were analysed, as required for task a, with use of questioning to secure mark band 2. In-depth questioning was not always apparent, as required for mark band 3.

The range of information sources in task b was often limited. The majority of candidates were over-reliant on the use of the internet for such material. Rarely was there evidence of re-negotiating the configurations; if this was not necessary, an explanation by the candidate would be useful. Candidates must address 'future-proofing' to secure mark band 3, but this was not always apparent.

Good use was made of photographic evidence and witness statements for task c. It is important that a witness statement is sufficiently detailed to describe what the candidate has done and is not just a tick list.

Evidence for upgrading a system in task d varied greatly between Centres. Some candidates included clear evidence that the upgrade of one component required the replacement of another component, as required for mark band 2. Few Centres provided sound evidence for mark band 3 to show that the BIOS had been changed or upgraded as a result of the upgrade.

Task e was generally well evidenced, although mark band 3 requires an index of problems. This was weak in some cases.

The use of a wider variety of sources of information may allow candidates to produce stronger evidence for task f.

The evaluation in task g was often descriptive rather than analytical, as required for mark band 3.

G059 ICT Solutions for People with Individual Needs

For this unit candidates were required to produce evidence that:

- showed an understanding of legislation and the rights of each of the individuals in connection with the ICT solutions suggested;
- showed a clear understanding of the disabilities or limiting factors, and resultant needs, identifying and showing suitable items of equipment and software as appropriate;
- for at least one case study, provided a specification for a complete system, to include configuration and customisation of software and equipment as appropriate and demonstrate that they could customise the available operating system and applications;
- evaluated the viability and effectiveness of your proposed solutions, indicating how the solutions would enhance the quality of life for each individual;

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- presented their reports or presentations in a way that is suitable for the needs of the individuals outlined in each case study or for a carer if the case study is that of a young child or a person with very limited understanding.

Evidence for task a, on a few occasions, extended unnecessarily beyond the legislation listed in section 20.2.7 of the unit. Candidates need to consider the implications of the legislation on the individual to secure mark band 3.

Task b was, on the whole, evidenced well by candidates, although a small number of candidates did not evaluate the effectiveness of the recommended solution but had been awarded marks within mark band 3 by the centre.

Evidence requirements for task c had been misinterpreted by a small number of centres. Some candidates presented evidence suggesting that limited customisation of the operating system, application software and the hardware had been carried out. Task c(ii) requires alternative suggestions to meet the needs of the user. Evidence for this is likely to involve consideration of specialist hardware and software that is available to support people with individual needs, rather than relying on generic hardware and software customisation.

Task d required candidates to produce an analysis of their solutions in order to gain marks in mark band 3.

Task e required candidates to produce the recommendations in a format that suited each of the users. Some good evidence was presented for this task, although candidates occasionally omitted to provide evidence of verification of the accuracy of the information, as required for mark band 3.

G041: How Organisations Use ICT

General Comments

More candidates were able to achieve the mid range of marks but few accessed the top 20%. This is mainly due to a lack of depth in answers requiring descriptions or explanations, so that candidates only gain about half the marks available for this type of question.

Candidates generally did well in those questions requiring them to use the information provided in the case study but less well when they had to apply their own knowledge to answer the questions, for example questions 6 and 7 and Section B.

Most candidates had completed and submitted all three tasks, although there were still some who had failed to complete, or at least include, task 1 and some who lost significant numbers of marks by not including tasks 2 and/or 3. A few candidates lost marks because they submitted work in response to the January tasks. **Centres must ensure that the correct pre-release tasks are used.**

Centres are encouraged to use the What You Need To Learn section of the unit, as well as previous Examiner Reports, question papers and mark schemes when preparing candidates for the examination. Candidates should also be taught examination techniques to help them provide appropriate answers to the questions. The content of the What You Need To Learn section of the unit must be taught before candidates sit the examination. Questions in Section B can ask about any of the topics covered. Too many responses to the questions in this section suggested that insufficient emphasis had been placed on teaching the content of the specification for this unit.

The work taken into the examination **must only** include the candidates' responses to the tasks set. Class notes, hand-outs and worksheets on aspects of the What You Need to Learn section of the unit **must not** be taken in to the examination. Teachers need to set deadlines for completion of the tasks so that they have sufficient time to check (but not mark) the work carefully prior to the examination. Centres are also reminded that **all three** tasks must be submitted to the examiner with the examination paper.

Most pre-prepared work was word processed and most candidates had clearly labelled tasks 2 and 3. Task 3 requires a word-processed report and no marks are awarded for this task if it is hand-written. However, hand-drawn diagrams for task 2 are acceptable and candidates may benefit from hand-drawing the information flow diagram, or at least hand-labelling the information flows, as marks were lost due to candidates' inability to manipulate text boxes. However, please discourage the use of paper larger than A4 for producing the diagram.

It would be helpful if centres could clearly distinguish between Task 1, Task 2 and Task 3, and put the tasks in order. There were instances where the work submitted for the tasks was not fastened together/named etc. Although most centres had secured the work with a treasury tag as requested, there were still some who used plastic pockets to hold the pre-released tasks. Please do not do so. The work should be hole-punched in the top left hand corner and secured with a treasury tag. Unfortunately, this session the exam paper did not have a pre-punched hole, although many centres had punched one to attach the tasks.

In addition to checking for material not related to the tasks, centres are reminded of the need to check the work carefully for authenticity before signing the Centre Authentication Form. There were, again, a number of instances of identical information flow diagrams this session.

A number of centres failed to send a Centre Authentication Form but did send individual candidate authentication forms. A Centre Authentication Form **must** be included with the scripts. If no Centre Authentication Form is received, candidates will not receive their results. The candidate authentication forms, however, should **not** be submitted. These should be retained securely in the centre until final results are published.

Care is needed to ensure that candidates are not given too much guidance when carrying out the tasks. Whilst it is acceptable for teachers to ensure that candidates understand the content of the case study and the requirements of the tasks, they should not give help that relates directly to carrying out each task. Too often, the diagrams created for task 2 and the topics addressed in task 3 were similar for all candidates within a centre.

Where candidates run out of space when answering a question, they should be encouraged to ask for a supplementary sheet, rather than writing the answer elsewhere on the paper. If they do use a supplementary sheet, they must indicate to the examiner that they have done so. Such sheets easily get mixed in with the pre-released tasks and may be overlooked. Only proper examination stationery should be used for this purpose, it is not acceptable to use ordinary file paper or any scrap of paper that happens to be available.

Centres are also reminded that candidates must not use correction fluid on examination papers. Any errors should be crossed out neatly and replaced, if necessary on a supplementary answer sheet.

Comments on Individual Questions

Task 2

Most centres are now teaching the basics of information flow diagrams correctly and there were very few inappropriate diagrams. A few candidates provided data flow diagrams, which gained few marks.

Most candidates clearly identified the sender and receivers correctly and were awarded the total 6 marks. The majority of candidates scored over 10 marks in total and those who failed to gain marks generally wrote too much detail on the arrows – giving processes on the arrows rather than just the detail of the information and method.

There are still a few candidates who are not labelling the arrows with sufficient precision but they are the minority. Those who scored low marks generally had a box labelled head office rather than order processing clerk and consequently lost marks for all information flows to and from this entity.

Task 3

A significant number of candidates gained no marks for this task because they failed to address the task set by discussing communication methods, such as mobile phones and PDAs rather than improvements to the company's ICT systems to improve communication. Others described in detail the problems with communication in the organisation without making any suggestions to improve it or suggested the use of email as a solution without mentioning the changes needed to the system to allow this to happen.

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It was clear from some of the responses seen that candidates do not understand the difference between a LAN, a WAN, wireless networks and mobile broadband. Suggestions such as 'connect the warehouse and factory to the LAN', 'a WAN would enable staff to work from home' or 'a wireless laptop would allow a salesperson to connect to the network from the customer's home' were common and demonstrate this lack of understanding.

Those candidates who did recognise the need for a wide area network or internet access in the warehouse and factory often failed to provide sufficient detail of the benefits and drawbacks of this to reach the highest mark band.

Most candidates who attempted an evaluation gained some marks, with many gaining all three, although there were a minority who described their method in detail without evaluating it. However, in some centres, the majority of candidates limited their marks by not addressing the AO4 point, or simply listing the websites visited. There was also confusion with some identifying strengths and weaknesses of the task, rather than the method used by the candidate to complete it.

- 1 This question was generally well answered, although the distinction between job function and job title is not understood by some, e.g. giving accounts staff rather than accounts. Some candidates scored zero marks by identifying the wrong job function or because they did not know the difference between a job function and a task. Some had not read the question properly and gave almost any job title mentioned in the case study, rather than one within Finance and Administration.
- 2 This was generally well answered, with most candidates gaining three or more marks. However, several candidates seemed to consider managing a team of salespeople/installation engineers/admin assistants as three separate answers and did not go on to offer more answers. Another common mistake was to state that the branch manager obtains the labour costs, rather than giving this to the salesperson.
- 3 This was poorly answered by the majority of candidates. The first part of this question, identifying the supplier, was answered well with most candidates identifying the external supplier but failing to identify how the supplier interacts with the company. However, some gave house builder as a response, suggesting that they do not know the difference between a supplier and a customer, while others failed to differentiate between the different methods of interaction for different suppliers.
- 4 Candidates tended to either gain full marks or no marks in part (a). Those that gained no marks often wrote answers such as dimensions or furniture and handles. The case study talks about dimensions and they tended to answer this with little thought.

For part (b) many candidates gained full marks. The best candidates identified the correct part of the case study and had marks to spare. Those who lost marks had described the process of the salesperson obtaining measurements and then having the design checked by the branch manager.

Some candidates identified the output in part c(i) as an invoice or a generated list of parts but many were correct. A small number of candidates had not read the stem of the question and gave the final design as an answer.

For part c(ii) very few candidates included 'costs were added', rather putting 'calculated' as this was copied from the case study. This part of the question posed problems for a significant number of candidates who appeared not to understand that they had to describe the calculations.

In part d, most candidates correctly gave the two methods of communication, although some described the type of information rather than the method.

- 5 The hardware section was very well answered on the whole, with around half the candidates gaining the three marks on offer. A few failed to identify the stand-alone computer and gained no marks.

In the software section, most candidates were able to identify the database, but some failed to add any further detail to gain the extra marks.

Input was not as well answered, as many candidates said how the data was entered, rather than what the data was. A few gave input devices, rather than input data. Most gained some marks, usually for mentioning that the quantity was entered.

In the outputs section, many candidates identified the purchase order, but did not expand on this. Again, a few gave output devices, rather than the type of output.

The processes section was poorly answered on the whole. Very few candidates could identify the processes. There was a variety of things written which did not score any marks – most of them processes performed by people rather than the computer. Those who correctly identified processes were the strongest candidates who generally only needed one mark from this section to gain full marks.

Overall, the majority of candidates did achieve more than half the marks available. A number of candidates did gain full marks, but it was more common to gain a maximum of 9 due to not answering the processes section correctly.

- 6 This question was very poorly answered on the whole. Many candidates seemed to misunderstand the question, or not be aware of what CAM does. There were a large number of candidates who failed to appreciate the difference between CAM and CAD and still more who talked about robots. Many candidates were muddled between parts a and b. A lot of vague answers were given and of the successful answers not all were able to score the second point.

Part a: This question was answered poorly. Few candidates gained many marks, and those who did usually gained only one or two marks. Many candidates listed general advantages and disadvantages without actually identifying an impact on the company. There were several answers that related to robots rather than CAM, such as not needing to take breaks. Many candidates did not identify the benefits of CAM to Bedrooms4U, or they identified a benefit but failed to explain the benefit. Candidates' main focus was on how much faster production would be with using CAM.

Part (b): Surprisingly, many candidates found it more difficult to consider the impacts on the employees. Many gave impacts on the company such as a need for the company to provide training. The main problem was that candidates did not go into detail of explaining the impacts on employees. Some answered that staff would lose their jobs, rather than may lose their jobs. However, there were some good answers.

- 7 The vast majority of candidates were unable to identify the correct act. Of those that did, very few managed to give satisfactory answers to the rest of the question. Some answers showed that the purpose of the act was understood, but answers were not sufficiently accurate and missed the main point about encryption services.
- 8 This question was poorly answered – very few candidates were able to identify the main responsibility of ICT services in part a, identifying general tasks instead. As in Question 6, students were often able to identify tasks in part b but could not expand in order to obtain a second mark. Those that did gain marks did so by talking about installing hardware/software, but were unable to expand on this.
- 9 **Part a:** Most candidates were able to gain some marks for this aspect of the question although a common incorrect answer was as a result of candidates being too vague, for example saying ‘travel information’.

Part b: This aspect was generally answered better with most candidates able to gain some of the marks, if they had read the question and did not give information that the customer would need about a holiday, rather than information the customer would need to provide. How the information would be obtained was often too vague or inaccurate.

- 10 This question was poorly answered overall, although most candidates did gain some marks.

The most common answers given in part a referred to the internet being available to anyone, and an intranet only being available within a company. Many candidates found it difficult to describe two differences and tended to repeat the same point for both answers. Many candidates failed to identify the internet as a global network and talked about an intranet as a LAN.

In part b, most candidates were able to gain at least one mark, but were on the whole unable to expand on their ideas. Most marks gained were for talking about advertising using websites, using e-commerce or using email. However, some did not gain marks because they did not go into enough detail – talking about advertising without stating that it involved a website and talking about email without appreciating that only external emails use the internet.

In part c, the concept of an intranet does not seem to be well understood. Many candidates described a LAN. Some did write about sharing documents, but failed to comment on the interface.

G054: Software Development

General Comments

It was pleasing to note that many centres had actioned the issues raised in the reports on previous examinations. Once again, there was a wide range of marks on this paper with many candidates accessing the marks available for the pre-release tasks.

Centres are reminded that all answers given to questions in Section A must be applied to the case study, in this case Rods Recycling, and are not theoretical. However, the performance of the candidates on section B of the paper continues to be disappointing.

The majority of candidates had attempted all of the questions producing good quality pre-release material to help them in Section A of the examination paper. Centres are reminded that the work for Task 1 must only cover the topics listed in the instructions to candidates. A minority of candidates had not fully prepared the pre-release tasks failing to submit at least one of the tasks. This strategy disadvantaged those candidates who are unable to access all marks available for the tasks.

There were very isolated instances of candidates not producing work for Task 1 of the pre-release material. There were also some instances where the pre-release tasks for the January 2009 session had been completed. This disadvantaged candidates who were unable to access the marks available for Tasks 2, 3 and 4. Centres are reminded that, although the case study and Task 1 are the same for both examination sessions, Tasks 2, 3 and 4 change from January to June. It is, therefore, vital that the correct candidate instructions are used.

It would be helpful to examiners if centres could clearly distinguish between the tasks, and put the tasks in order. Candidates should be encouraged not to tie the treasury tag into a knot or wrap it through the hole several times as this makes it difficult for the examiner to mark the paper. There were instances where the work submitted for the tasks was not fastened together/named etc. This may cause problems during transit.

Some questions were poorly answered due to the candidates not reading/understanding the question. The need to read the question carefully and answer accordingly cannot be over-emphasised. Centres should give candidates some guidance on the key words that are used in a paper i.e. describe, explain and discuss, and the requirements of these key words.

Care is also needed to ensure that candidates are not given too much guidance when carrying out the tasks. Whilst it is acceptable for teachers to ensure that candidates understand the content of the case study and the requirements of the tasks, they should not be given help that relates directly to carrying out each task. Too often, the work produced for all tasks was very similar for all candidates within a centre.

Centres are reminded that Section B of the paper can focus on any part of the unit specification. It was obvious that some centres had concentrated on the requirements of the pre-release tasks and the case study and had not fully covered the requirements of the specification. This strategy disadvantages candidates when they are attempting to answer Section B of the paper.

Comments on Individual Questions

Task 2

The task required candidates to produce a L1 data flow diagram (DFD) with the start point being given as when a booking is sent to the yard and ends when the recycling box or container is returned to stock. There were many instances of the start and end points shown in the DFD being different.

The main failing on this task was to produce diagrams for the whole system instead of concentrating on the required section. As a result many of the L1 DFDs did not have enough detail of the required processes. Some candidates did not understand the difference between data flows and processes and labelled arrows with processes. Most candidates tried to include data stores reasonably successfully. Few candidates correctly identified both the Admin office/customer as external entities.

Many of the DFD's produced used symbols consistently. It is appreciated that there are many different sets of symbols that can be used to develop DFD's. It is irrelevant which set of symbols is used as long as they are used consistently. It is important that DFD's are produced showing a logical order – as detailed in the case study – and that processes are linked to the appropriate data stores or the relevant external entity. Some DFD's produced by candidates failed to follow the processes and data stores detailed in the case study with some centres developing a DFD that bore very little resemblance to the activities that occurred in Rods Recycling.

Some of the DFD's produced by candidates were simply a set of isolated processes and data stores with no links between them. A DFD should show the logical flow of data from the start of the given process to the end.

Too many candidates failed to achieve any marks for AO4, as they had made no attempt to evaluate the methods used to produce the DFD.

Task 3

This task required candidates to produce a data dictionary for the proposed system for Rods Recycling. Most candidates were able to access the marks available for defining the primary and foreign keys that would be present in each table. However, many candidates failed to access the marks available for the relationships and cardinality of the primary key. Some of the data dictionaries were presented in a disorganised manner making the marking of this task very difficult. Centres are strongly recommended to look at previous mark schemes and to follow the format of the data dictionaries given there.

Task 4

Candidates were required to design an input screen for the yard staff to calculate the recycling payments due to customers. The emphasis of this task was on the design of the form and not the implementation of the design.

There were a large number of candidates who had produced the evidence for this task using some form of software package. This was accepted unless the screen showed any form of population of fields. If this was present then no marks were awarded for this task.

Section A

- 1 Many candidates answered part a of this question well. There were, however, still instances of generalised purposes such as 'to improve/modernise the business'. Some candidates still appear to be confused about the difference between the purpose and the functions of the new system.

Part b of this question required candidates to explain why defining the purpose of the new system is important. Many candidates failed to gain marks for this part of the question. It is important to define the purpose of a new system to ensure that the system meets all the requirements of a client, in this case the owner of Rods Recycling. The responses provided by candidates were worrying as this should have been considered when they were carrying out the pre-release tasks.

- 2 Part a of this question focussed on the functional requirements of the new system for Rods Recycling.

Candidates needed to explain what is meant by functional requirements using examples from Rods Recycling. Many candidates were unable to provide an explanation of functional requirements so failing to access the mark allocated for this.

The focus of part b of this question focussed on the non-functional requirements. Again, few candidates were able to clearly explain what is meant by non-functional requirements so failing to access the 2 marks allocated for this. The response relating to the non-functional requirements of Rods Recycling were very generic failing to provide the level of detail required. Many candidates failed to define that the vendor of the operating software should remain the same.

- 3 The focus of part a of this question was on the defined hardware constraint. Most candidates were able to provide answers detailing that the existing computers should be incorporated into the new system.

Part b of this question then required candidates to identify and describe a further constraint that had been defined by Rods Recycling. Despite the question stating that hardware and software should be excluded in the answer given, a high proportion of candidates provided responses relating to these.

- 4 Few candidates were able to describe the problems caused by the current system that related directly to the recycling boxes and containers. Many candidates failed to focus their responses on the boxes and containers. Some candidates failed to differentiate between a request and an actual booking. Many of the answers given by the candidates were not linked to the recycling boxes and containers. Candidates who failed to link their answers to these failed to score marks.

- 5 Candidates were required to describe advantages and disadvantages of recommending off-the-shelf software for Rods Recycling. Most candidates were able to provide some response to this question although the depth of the responses varied. Candidates had to explain their responses: to access the 2 marks available for each advantage/disadvantage they had to develop a point to provide depth. For example, to access 2 marks, a response that included 'support available' had to then expand the response to provide examples of where support could be got from.

Many candidates provided responses related to cost: these were credited with a maximum of 1 mark.

- 6** To achieve the marks allocated to this question candidates had to identify the device before they gained any marks for their justification.

The focus of this question was on the device required to produce the recycling bonus statements. Many candidates were able to identify the most suitable device. The justification of the choice of device was, in the most cases, weak with candidates failing to access the marks allocated for the justification.

A worrying number of candidates provided an answer of software, such as a database or a specific brand name such as Excel. These candidates failed to access the marks available for this question.

- 7** The question asked candidates to explain why the observation investigation method would be suitable to be used in the yard of Rods Recycling. Most candidates were able to provide some explanation for the use of observation with the most common responses being related to the concept that its better to observe someone doing their job than ask them to describe it.

- 8** This question assessed the candidates' quality of written communication.

Candidates were required to explain the advantages and disadvantages to Rods Recycling of using the parallel implementation method. The question required candidates to relate their answers to Rods Recycling. Candidates who did this gave some excellent and insightful answers.

There seemed to be a good general understanding about the parallel implementation method. Most understood that they had to do more than list the advantages and disadvantages of this method with many candidates making some attempt to link their answers to the case study. However, few provided an explanation, covering advantages and disadvantages that clearly linked to Rods Recycling, in enough depth to score the highest mark band.

A minority of candidates failed to relate their responses to Rods Recycling. This strategy limited candidates to the lowest mark band.

- 9** To achieve the marks allocated to this question candidates had to identify the maintenance method they would use before they gained any marks for their justification.

The majority of candidates could identify the maintenance method yet went onto relate their response to, for example, changes in VAT rate. The focus of the question was on the planned expansion of the business so this strategy failed to gain any marks.

Section B

As stated previously in this report it was obvious that some centres had not fully covered the requirements of the unit specification and had simply concentrated on the requirements of the pre-release tasks and the case study. This strategy led to candidates being unable to gain marks on Section B of the paper.

10 Very few candidates scored marks on this question. A list of the components of a software specification is given in the unit specification.

11 The focus of this question was on the differing types of documentation that is passed to the user when a new system has been implemented.

Part (i) of this question required candidates to explain why test plans, data and logs should be passed to the user. Many candidates failed to score any marks on this part of the question. The most common misconception was that test plans are supplied so that you can test the system yourself.

Part (ii) of this question focussed on user manuals. The responses to this part of the question were better with many candidates scoring at least one mark.

12 This question focussed on a fundamental development tool, flowcharts, which can be used within the area of software development and the systems life cycle.

It was clear that candidates from some centres did not display that they knew how to draw a flowchart. A variety of diagrams were drawn in response to this question.

Most candidates were able to gain the mark allocated for providing a start and end to the flowchart. However, many candidates provided no labelling of the yes/no flows coming out of a decision box and so failed to access the marks for these.

13 This question focussed on the benefits of using an informal method of modelling data flows with the focus being on the client.

Many candidates were able to provide a reasonable description of an informal method so accessing a maximum of 2 marks.

Many candidates were then able to state that an advantage of using an informal method is that it is easy for a client to understand.

However, most candidates were unable to provide an evaluation (advantages and disadvantages) of the use of an informal method of modelling data flows.

G055: Networking solutions

General Comments

Candidates were generally well prepared. All tasks had been attempted in the majority of cases and were submitted in a logical order with clear labelling. Candidates' notes for Task 1, were often general rather than related to the case study and did not always relate to the bullet points given for task 1. This resulted in the notes being unhelpful to the candidate who was often unable to relate the questions to the case study, gave their answers in general terms and, as a result, failed to access the higher marks. Candidates need to focus their preparation on the application of their knowledge to the case study.

Tasks – General

Tasks 2 and 3 were clearly marked, it was obvious where each started and ended. A number of candidates had used the diagram provided for task 2, when the task instructions were to produce a separate diagram of a logical layout for the network.

Most candidates produced a report for task 3 that did not exceed 250 words and included, in most cases, a word count. Marks for the tasks were above the average for the mark for the whole paper, reflecting the lack of preparation for the examination in the notes for task 1.

Task 2

This task was answered well. Most candidates gained all eight marks for the diagram. Those who lost marks on this part had missed the fact that there were three distinct networks, one wireless, that needed to be connected together.

While candidates were able to identify some of the software required, often identifying the full five types of software, a significant number were unable to state where the software was needed or why. Some candidates are still using brand names in place of software type.

Most candidates included an evaluation. A few evaluated their network design rather than the methods used to carry out the task, these candidates were awarded no marks for this section. Where an evaluation of the methods was present, candidates often described what they had done without attempting to assess any strength or weakness.

Task 3

Many candidates described the process of choosing an ISP and a connection type before starting to describe how the connection would be set up. Too many words were allocated to this resulting in a brief description of how the connection to the ISP would be set up. As, in a number of cases, 'setting up the connection to the ISP' was one bullet point in a list of processes, candidates need to be encouraged to analyse the task requirements before they start to attempt an answer. In particular, candidates needed to be aware that they were asked to describe the process of connecting an existing network to an ISP. Descriptions of how the network would be connected together before setting up the internet connection gained no extra marks. Answers written as a set of possibilities or decisions to be made gained the lowest marks.

Question paper – General

Candidates tended, on average, to score better in Section A than in Section B. Candidates generally scored low marks where the answer required technical language or understanding of the context of the case study. Candidates should be better prepared in both these areas.

Section A

- 1 This question was poorly answered. Candidates were largely unsure about what an extranet is. Many described employees working from home but referred to accessing the network rather than the extranet. Those who gained marks were aware that the extranet provides an information service accessed by username and password.
- 2 Although this question was answered quite well, a significant number of candidates gave two benefits that were too similar to gain separate marks. Candidates should be able to describe two different benefits rather than giving two examples of resource sharing. Benefits were often identified but not described.
- 3 Although the majority of candidates may have known the function of the NIC, answers were often too vague ('allows the computer to communicate on the network') to gain full credit.
- 4
 - (a) This question was poorly answered. There was a general lack of understanding of what a VLAN is. Candidates often described segments on a LAN rather than VLANs and some gave textbook style definitions.
 - (b) As candidates had often missed the point that the VLAN is separate from the main LAN, they often failed to identify that the VLAN needs its networking software to be configured for the VLAN rather than the main LAN. A number of candidates identified hardware rather than software indicating that they were not paying enough attention to the question.
- 5 This question was very poorly answered. Candidates rarely gained half the available marks, which could have been gained by having the required technical knowledge even if candidates were unable to apply the knowledge to the case study. Very few candidates knew the function of patch panel.
- 6 Most candidates were able to draw a correct, fully connected mesh topology and most gained a further mark for the labelling. Few candidates indicate the direction of flow.

Most candidates were able to identify components for part (b) but many were not able to identify the parts of the network affected by failure of the components. A number of answers indicated that candidates may be thinking of a star topology even if they had drawn a correct mesh topology diagram.

The most common answer was that data can be re-routed if there is a fault by the majority of candidates did not identify the feature associated with this benefit, i.e. that there are multiple paths for the data.

- 7 Candidates were generally able to describe a discussion forum but often failed to relate the functions of a forum to uses that could be made by the specialists in the case study and therefore did not access the higher marks. A minority of candidates were able to identify hardware required for a discussion forum.

- 8** This question was well answered. A variety of pieces of information were given.
- 9** Candidates were generally able to identify causes of risks (e.g. viruses, hackers, server failure). Lower scoring candidates tended to describe the causes and the minimisation of risks without identifying the risk itself. Candidates who accessed the higher marks had generally organised their answers so that a risk was identified, its cause described and the minimisation method for it explained.

Section B

- 10** Part (i) was answered well. Some candidates did, however, lose marks for part (ii) because their justification only included one factor affecting the choice and this was only briefly explained.
- 11** This question was very poorly answered. Some candidates were able to explain the protocol being requested, very few were able to explain the domain name part of the URL. The majority of candidates who gained one mark explained the meaning of the .uk part.
- 12** Candidates were often able to identify where an analogue signal would be used but were unable to give a definition of the term 'analogue signal'.
- 13** Many candidates could identify that bandwidth is a term related to an internet connection but few were able to give a technical definition. Only a very small minority of candidates were able to calculate the time to transfer a file. Most did not demonstrate any knowledge of the process of calculating this figure. In general there was a lack of understanding of the units of measure. Candidates were often aware that a division of file size by speed of transfer is needed but were unable to convert Kb and Kbps into numbers of the correct size.
- 14** This question was fairly well answered. Candidates were often unable to gain all the marks for part a, but the majority gained all three marks for part b.

G048: Working to a brief

General Comments

The amount of CWAMENDS and CCS160s that moderators are required to send continues to be a concern. Evidence would suggest that best practice is for centres to use spreadsheets to store candidate's marks and thereby calculate each candidate's final score. In the absence of such a system, it would be useful if centres could check their calculation, possibly through the use of an alternative electronic device. Furthermore, though this issue is declining in number, moderators are still having to chase CCS160 forms. These forms must be submitted alongside the MS1.

The late submission of marks and then coursework in response to a request is a further cause for concern. Centres should be advised that where they fail to meet the date requirements, the award of final grades for the centre can be delayed.

Finally, annotation of work to show where marks have been awarded needs to be addressed in some centres. There are many examples of excellent practice in centres and this excellent practice makes the moderation process a smooth one. However, moderation is the process of checking on the assessment decisions of others. Where annotation is missing from work, the moderator has little, if any, evidence of the thought process of the teacher. Therefore, the absence of annotation not only hinders the process but may result in marks being removed where the moderator is not able to discern the original marker's thought process.

This unit has been redeveloped for the 2009 relaunch of the qualification. The major changes have been made to tasks c(ii) and d. For task c(ii), the reference to other units has been removed and placed within task d. Task d, whilst still referring to support materials, will now be based on the quality of the materials produced. There will no longer be a requirement for candidates to produce evidence that they have developed or extended their ICT skills whilst producing these materials.

It is worth stressing that each set of briefs is live from September to the following May. Only candidates who complete current briefs will be awarded marks for this unit. Where candidates submit work that is a response to any other brief, including a brief from a previous year, no marks will be awarded. This includes any candidates who may be resitting the qualification from previous years.

Comments on Individual Questions

- (a) This report allows candidates to research into the issues of which they need to take account when they are working on the final product. The issues identified should cover the planning and creation of the tasks. Whilst some candidates had produced excellent and wide ranging reports of many pages, other candidates had produced minimal reports which focussed on maybe one theme, such as a comparison on different multimedia products.

As with previous years, there was a degree of misunderstanding with this task. If centres keep the need for the Current Working Practice report to act as a prompt from which the candidates know what they need to plan for in task b as the core role of this task, they will not go far wrong with their assessment. However, too many centres are failing to treat this task as having this focus and are, therefore, awarding marks for work that only provides the candidate with minimal understanding and insight into the task.

A special mention needs to be made for the spreadsheet task. Due to the need for this scenario to cover all aspects required for the model, a very detailed background is provided within the scenario. This may then be considered by centres to form the nucleus of the Current Working Practice report. However, a report focussing on the scenario alone should be seen as the bare minimum. Within the current scenario, there is huge opportunity for students to carry out further study. For example, candidates may consider how hotels in general set their prices. Where a candidate looks at the whole spectrum of current working practice, and does not merely focus on the narrowest of inputs, a mark from MB3 is clearly appropriate. However, where candidates fail to widen this report out, a mark from MB2, at best, may be more appropriate.

- (b) (i)** The majority of candidates now include at least one formal planning technique in their work and therefore access marks from MB2. For those candidates who include two or more formal planning techniques, marks from MB3 are available. The vast majority of centres now award this task correctly, at least so far as that candidates are awarded marks from within the correct Mark Band.
- (ii)** There is still a very mixed performance for this task, with many centres and candidates over-valuing a relatively simple level of planning. In many cases, planning of the level of “Create product”, with no further detail, was awarded marks from the top end of MB2 and even, at times, MB3. Such a comment, where candidates support it with further detail, may appear within a plan that is, eventually, awarded a mark from MB2 or beyond, but it must be stressed that where a candidate fails to break the task down into meaningful sub tasks, a mark from the bottom end of MB2, at best, is suitable.

Candidates are also including the full range of the task within their plans. The plan is meant to be how they will implement their product. This does not need to include research into Current Working Practice, as this is meant to inform what is included in the plan, nor is it meant to include the evaluation tasks, as these are part of the academic exercise of reflecting on what has been learnt during the task, rather than part of the task itself.

Finally, in a few cases, centres have adopted a policy of producing one formal plan that covers the whole of the project, and then in depth plans at various stages. Key watershed dates tend to be those associated with meeting with the client (who may be played by the classroom teacher) and these meetings are then used to inform further, in depth, planning. Such in depth planning allows the candidate to include sufficient detail in their plans to justify marks from MB3 and so such a policy must be seen as an example of good practice.

- (c) (i)** Candidates need to show that they have developed and extended their ICT skills. This may be shown in the diary, with an explicit column or entry aimed at this one issue, or by a self analysis task completed before and after the project. This may be considered the first part of the diary task.

As with previous years, candidates are failing to make explicit claims for marks to be awarded in this section. What may be clear to the classroom teacher who has observed the work being done may not be as clear to the moderator. It is for the candidate to make it absolutely clear in their work that they have developed and extended their knowledge base. Furthermore, where a candidate wishes to claim a mark from MB3, there must be clear evidence of the use of initiative used to increase this knowledge and understanding.

It is also worth stressing that this section refers to the development and extension of ICT skills. In a small number of cases, centres are awarding the development of non-ICT skills. In other cases, centres are awarding the development of skills that are likely to have been accessed already in an ICT student's career. Claims for learning how to use spell check, or the justification button are generally unlikely to represent a true statement about the student's development of ICT skills during the unit. Furthermore, some candidates are being extremely honest in indicating that no skills have been learnt throughout the project. In this case, it is extremely difficult for a moderator to accept marks from MB1, 2 or 3 being awarded.

- (ii)** Many candidates are not working for a client. This restricts marks throughout this task, as candidates are restricted in their ability to show formal interaction with others, which is a key element of MB2. Furthermore, candidates need to show that they have had informal communication and interaction with others if they are to achieve MB2. In far too many cases, centres are awarding MB2 to candidates who have shown little interaction of any type. As with task c(i), it is for candidates to make these aspects clear in their diary if such marks are to be awarded.
- (iii)** Task c(iii) is awarded for the degree of complexity shown within the diary. Where a candidate's diary suggests little thought beyond the immediate day-to-day tasks, candidates should be awarded marks from MB1. Where a candidate shows greater complexity, marks from MB2 are pertinent. Finally, candidates need to show awareness of future issues if they are to be awarded marks from MB3.

This task remains one for which centre marking is often inaccurate. Centres need to take account of the comments made above, as well as the further advice given within the unit specifications.

- (d)** As with previous sessions, a number of candidates are producing items that are not considered support materials. In many cases, candidates are producing guides or reports on how the main product was produced.

Where candidates have produced support materials, this then needs to be supported by clear evidence that skills have been extended or developed whilst producing these materials if a mark beyond MB1 is to be considered.

- (e), (f) and (g)** There has been real progress within these reports over the past few sessions. The major change came when centres started to insist that these reports were done as three separate reports.

However, it is still worth stressing that candidates need to ensure that they keep the correct focus for each report. Centres are also advised that report G must be based on feedback from the client if marks from MB3 are to be awarded. Where candidates merely refer to client feedback, this is not sufficient for MB3. Best practice is seen where candidates begin their analysis by comparing the completed product to each element of the success criteria set for the product. This analysis should be based on informed commentary from the client.

Grade Thresholds

GCE Applied ICT (H115/H315/H515/H715)
June 2009 Examination Series

Coursework Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
G040	Raw	50	46	41	36	31	26	0
	UMS	100	80	70	60	50	40	0
G042	Raw	50	46	41	36	31	26	0
	UMS	100	80	70	60	50	40	0
G043	Raw	50	45	40	35	30	26	0
	UMS	100	80	70	60	50	40	0
G044	Raw	50	44	39	34	30	26	0
	UMS	100	80	70	60	50	40	0
G045	Raw	50	44	39	34	30	26	0
	UMS	100	80	70	60	50	40	0
G046	Raw	50	44	39	34	30	26	0
	UMS	100	80	70	60	50	40	0
G047	Raw	50	46	41	36	31	26	0
	UMS	100	80	70	60	50	40	0
G048	Raw	100	87	77	67	58	49	0
	UMS	100	80	70	60	50	40	0
G049	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G050	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G051	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G052	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G053	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G056	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G057	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G058	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0
G059	Raw	50	46	40	35	30	25	0
	UMS	100	80	70	60	50	40	0

Examined Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
G041	Raw	100	77	70	63	56	49	0
	UMS	100	80	70	60	50	40	0
G054	Raw	100	68	60	52	45	38	0
	UMS	100	80	70	60	50	40	0
G055	Raw	100	69	61	53	46	39	0
	UMS	100	80	70	60	50	40	0

Specification Aggregation Results

Uniform marks correspond to overall grades as follows.
Advanced Subsidiary GCE (H115):

Overall Grade	A	B	C	D	E
UMS (max 300)	240	210	180	150	120

Advanced Subsidiary GCE (Double Award) (H315):

Overall Grade	AA	AB	BB	BC	CC	CD	DD	DE	EE
UMS (max 600)	480	450	420	390	360	330	300	270	240

Advanced GCE (H515):

Overall Grade	A	B	C	D	E
UMS (max 300)	480	420	360	300	240

Advanced GCE (Double Award) (H715):

Overall Grade	AA	AB	BB	BC	CC	CD	DD	DE	EE
UMS (max 600)	960	900	840	780	720	660	600	540	480

Cumulative Percentage in Grade

Advanced Subsidiary GCE (H115):

A	B	C	D	E	U
2.8	12.2	33.5	59.9	79.8	100
There were 9654 candidates aggregating in June 2009.					

Advanced Subsidiary GCE (Double Award) (H315):

AA	AB	BB	BC	CC	CD	DD	DE	EE	U
1.9	4	7.8	17.3	29.7	42.5	56	66.6	76.4	100
There were 670 candidates aggregating in June 2009.									

Advanced GCE (H515):

A	B	C	D	E	U
5	22	50.8	76.2	92.1	100
There were 7033 candidates aggregating in June 2009.					

Advanced GCE (Double Award) (H715):

AA	AB	BB	BC	CC	CD	DD	DE	EE	U
1.3	4.8	11.4	20.8	35.4	52.5	65.8	77	88.7	100
There were 797 candidates aggregating in June 2009.									

For a description of how UMS marks are calculated see:

http://www.ocr.org.uk/learners/ums_results.html

Statistics are correct at the time of publication.

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