

Applied ICT

Advanced GCE AS H515/H715

Advanced Subsidiary GCE AS H115/H315

OCR Report to Centres

June 2012

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, OCR Nationals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

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

OCR will not enter into any discussion or correspondence in connection with this report.

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Overview

This is now a stable qualification with the performance in all examined units remaining similar to previous series and with similar issues arising. It was pleasing to see that the evidence produced for unit G048 was improved along with the accuracy of its assessment. The accuracy of assessment of the coursework units also seemed to have improved this series.

Candidates continue to find it difficult to access the highest marks on all three of the written papers, with responses in section B of most papers continuing to limit the marks that can be awarded. Centres are reminded of the need to teach the concepts covered in the 'Unit Content' section of the units, as well as preparing candidates to complete the pre-released tasks.

Generally the quantity and organisation of pre-release work was appropriate. Please ensure that each task is clearly labelled and that the work is submitted in task order. If tasks are not clearly identified, it is difficult for examiners to locate these tasks in order to mark them.

In some cases, task 1 notes were not submitted with the marked tasks and examination paper by any of the candidates in a centre. If task 1 is completed and made available in the examination, it must be submitted to the examiner with the examination paper. Candidates who do not complete and have access to task 1 notes may find themselves at a disadvantage when answering questions in section A of the examination papers. When completing task 1, candidates need to structure their notes to make them easily accessible in the examination. On some occasions it is apparent that, whilst candidates have made extensive notes, these have not been referred to when answering questions.

Centres are reminded that the work submitted in response to the tasks must be each candidate's own unaided work. It is the centre's responsibility to ensure that the work is carried out in conditions that allow the teacher to confirm that this is the case. It should not, for example, be given as homework. Care is needed to ensure that candidates do not share electronic files and that teachers do not provide too much direction when helping candidates to understand what they have to do. Whilst they must not mark the work, deadlines for handing in the work should be set so that there is time for the teacher to check the work before signing the Authentication Statement.

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 sample requested, so both the candidate name and correct candidate number should be included. 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 (or equivalent) match.

The tendency for candidates to submit excessive amounts of material for moderation was evident again in this series, as has been identified in the report on G048 as well as the AS and A2 moderated units. This can be counter-productive, especially when the work is not page-numbered with the evidence referenced on the unit recording sheet. In such instances, moderators may well be unable to locate evidence in order to confirm the marks. Candidates should be encouraged to be selective in what they submit and only include what is required by the tasks to demonstrate their coverage of the mark bands.

Moderation Report on GCE Applied ICT (AS Units)

General

Although not universally the case, the accuracy of assessment continues to improve, with many centres' marks falling within the allowed tolerance. However, there were still instances where high marks were awarded for work that was of little more than GCSE standard or where assessment criteria had been misunderstood. Centres need to ensure that they make use of all the support available to familiarise themselves with the interpretation of criteria and the standards required.

Moderation was often hindered by clerical errors. Care is needed when adding up the individual task marks on the unit recording sheet and when transferring the mark to the MS1 or onto OCR Interchange. The interactive PDF unit recording sheet ensures accurate addition of the task marks but some centres using this still managed to make errors in the transfer of marks. Whilst the moderator will pick this up for those candidates which are sampled, if errors are made for unsampled candidates, this may result in the award of incorrect grades.

Whilst most mark sheets and work were received on time, some centres submitted both mark sheets and work very late, or sometimes not all of the requested work was sent. In such cases, there is every possibility that candidates' grades may be delayed. To avoid delays in the receipt of coursework, centres should check the moderator's address provided in the sample request email against the labels provided. If they are different, the address in the email should be used to ensure the work gets to the correct moderator. On a positive note, a centre authentication form (CCS160) for each unit was nearly always included either with the mark sheet or with the work.

Of the centres that entered candidates using component code 01, less than half actually uploaded the candidates' work to the OCR Repository, with the majority sending the sample by post. Component code 01 should be used where the centre plans to upload the sampled work onto the OCR Repository; the code for postal submission is 02. Please ensure that the correct component code is used for all future series.

When submitting work via the OCR Repository, please encourage candidates to save their work in as few files as possible and to use file names which reflect the file content. It is particularly important that the file containing the unit recording sheet is clearly named, so that the moderator does not have to open a number of files to find it. It is often beneficial to submit work as PDF files as it avoids issues with software versions. It is recommended that all documentary evidence for a unit is compiled into a single PDF file whenever possible.

Where centres operate as a consortium it is vital that OCR are informed of this arrangement so that all the centres involved are assigned to the same moderator and the consortium as a whole can be moderated as one centre. To do this, centres should complete the relevant JCQ form and submit it to OCR. As all centres within the consortium will be treated as one, it is vital that internal moderation takes place between all teachers involved so that issues of invalid order of merit are avoided.

Whilst it is acceptable to provide guidance which breaks down the assessment criteria into more candidate-friendly language, care is needed that candidates are not provided with instructions, templates or writing frames which provide more detailed guidance than this. Where the quality of candidates' written communication is being assessed, for example task a in unit G040, the provision of a template would prevent candidates achieving the highest mark band, which

requires a well-structured report, as the structure will have been provided for them. Centres should also take into account section 2 of the JCQ 'Instructions for conducting coursework' when they are providing interim feedback to candidates.

Comments on individual units

G040 – Using ICT to communicate

Most of the work seen was appropriate for this level and realistically assessed, although there was some lenient assessment. Candidates need to ensure that they provide appropriate detail in planning, annotations and descriptions, and appropriate depth in explanations and evaluations.

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. Draft copies of 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

This requires candidates to write a formal report which compares two documents from three organisations. It is vital that candidates choose the same two types of document from each organisation and that a comparison between the three similar documents is actually made. Too many candidates described and evaluated each document separately and then provided a very brief comparison at the end. By doing so they often 'ran out of steam', with descriptions of the later documents lacking the detail provided for the first one or two. Candidates should consider discussing all three documents together so that they can identify the similarities and differences as they complete the report. As well as improving comparisons, this would reduce the repetitive nature of the task and overcome the problem of a document being too good to need improvement, providing others were not. Some care is needed in the choice of documents to compare. For example, business cards or advertisements with limited text do not provide sufficient opportunities for candidates to discuss writing style.

House style should be considered in relation to the two documents from the same organisation, so that similarities of colour, fonts and use of logos can be discussed. There was a tendency for candidates to discuss house style in relation to a single document, where what they were really discussing was consistency. Although more candidates were able to discuss writing style correctly, they often failed to identify the good and bad points of the writing style used in relation to the purpose of each document. Some candidates confuse writing and textual styles.

For mark band 3 candidates need to ensure the reports produced critically analyse the documents and that presentation style, writing style and house style are compared. Critical analysis requires candidates to explain why particular features are good or bad. The explanation should be based on accepted standards wherever possible, rather than just the candidates' own opinions. It is also essential that improvements suggested are relevant, fully justified and related back to the purpose of the document.

Task b

This requires candidates to plan, draft, create and evaluate six original communications. One of the six communications should describe different methods of communication and the technologies which can be used to support them. This must be planned, drafted and evaluated along with the other five. Most candidates did this but there were some that did not. Part of the banner requirement is that the communications produced should be communicated by different methods. Most candidates are producing more than one electronic communication, such as webpages, slide presentations and online forms. Centres may also like to consider interactive PDF forms which can include calculations and be validated.

To achieve beyond mark band 1 of task b(i), candidates need to show evidence of planning for all six communications, with some planning being detailed. They also need to have annotated draft copies to show development. Many candidates provided excellent planning and drafting of some of their communications but their work lacked the consistency required for the mark awarded.

Detailed planning should include plans for layout (including component positioning and possibly measurements), details of the font styles, colour schemes and content (text, graphics and other media) to be used, along with a possible source of this content. Draft copies to be annotated should be electronic copies of the complete communication to match the designs. Some candidates misunderstood this requirement and produced and annotated several hand-drawn 'drafts' or provided partially completed stages as drafts. Neither is acceptable evidence. Candidates should annotate each draft to indicate changes that they will make to improve it prior to implementing these changes to produce a further draft or the final copy. A hand-drawn exact copy of the final communication is not detailed planning and suggests that this was produced retrospectively.

For mark band 3, communications need to be fully planned and drafted. Planning too frequently lacked the required detail so that somebody else could make the communication as planned and annotation of draft documents was poor. Centres are also reminded that drafting is a natural process and should certainly not be manufactured – including versions of communications with words 'accidentally' spelt incorrectly although in previous versions they are not, is not a draft.

It was pleasing to see that the bibliographies produced by candidates in more cases than usual included the required detail for marks bands 2 and 3 however some candidates are not including all sources used throughout the work, as required by mark band 2 – a better teaching strategy is to include six bibliographies, one for each communication, so no sources are omitted – rather than one large one at the end. Mark band 3 requires the precise URL of the web page, the date it was accessed, the date it was last updated and the author (if known).

While some very professional communications were seen, others lacked the quality and consistency required for mark band 3 of task b(ii). Spelling and grammar errors often remained in the final communications which detracted from their quality. Communications need to be of a consistently high standard with borders and shading used appropriately. Presentations should have simple bullet points and not paragraphs of text in a small font, which on screen, would be very difficult to read from the back of a room. Communications printed in black and white should have font and background colours chosen carefully to aid viewing.

There needs to be some evidence of how information from existing sources has been adapted. This was provided in some portfolios but missing from others. However, more centres are encouraging candidates to provide suitable evidence. A few selected screen shots showing the original material and the outcome after manipulation is sufficient – for example a picture may have been cropped, re-coloured and merged with other images to create a logo. Prints of the original images and the final logo should provide adequate evidence in this case. Step-by-step guides should **not** be included. Mark band 2 of this task requires that communications are mailable. A letter without such standard content as a date and the recipient's address does not fall into this category.

There was more evidence that a range of automated features has been used, including mail merge, auto contents pages/indices and styles, which candidates have created themselves. To award high marks in this task, in addition to a solid range of graphics and other media, appropriate automation should be used at every opportunity. Overt evidence should be included to prove automation has been used. It should also be noted that some candidates are unsure of what a template is.

Templates are the base of a standard communication which can then be populated with content to ensure a consistent style is achieved. It is not, therefore, appropriate for candidates to simply save a final communication with content in it and then claim it is a template, nor is it appropriate to include mail merge fields within a template. A letter template's purpose is to be able to be used to write a letter to anybody about any issue from anybody within the organisation – it cannot be assumed that every letter will be a mail-shot to all customers. A template will contain all the common elements and graphics and then have placeholders prompting the user to add content in the correct position.

Evidence for task b(iv) is improving, with many candidates showing ongoing evaluation through annotation and reflection on their draft communications as required by mark band 3. Other candidates just provided a description of what they did or only evaluated the final copies and not the drafts. Evaluations should be consistent for all six communications. Evaluation of their own performance was not included by some candidates or it focussed on time management issues. In some cases there was also very little on how they would approach a similar task in the future. Centres could encourage candidates to write a final evaluation at the end focusing on how they worked during the whole unit, including the comparison of documents in task a and what they gained from this task.

The requirements of task b(v) were better understood than in previous sessions, although some candidates discussed types of information (written, multimedia, graphical, video, audio and web-based), rather than methods of communication (eg paper-based, screen-based SMS, email). These are included in the second bullet list on page 15 of the GCE in Applied ICT qualification specification. This list is now quite extensive and candidates are advised to initially select at least six methods from this list. They should then also explain how the technologies listed at the bottom of page 15 support their chosen communication methods. There was sometimes confusion between methods of communication and technologies or the technologies were simply identified, rather than described.

Some candidates had provided very detailed descriptions of the communication methods but limited the mark which could be awarded by providing little detail about the technologies. The evidence frequently lacked the depth required for mark band 3. Mark band 3 requires candidates to describe at least six of the communication methods listed within the specification and their relative advantages and disadvantages. Technologies utilised should be linked into the method rather than being a separate section. It is worth repeating that evidence for this task must form the content of one of the six communications created with suitable planning, development and evaluation. The detail required is more easily achievable if candidates present the information as a report or newsletter, rather than a slide presentation.

G042 – ICT solutions for individuals and society

The evidence produced for this unit and the accuracy of assessment continues to improve. The majority of centres provided suitable assignments which gave candidates the opportunity to meet all the assessment requirements, with many using or adapting one of the sample assignments available from the OCR website. However, some inappropriate assignments were seen and these made it difficult for candidates to provide the required evidence.

Task a

Candidates must make correct use of the advanced search facilities of search engines and construct their own search strings using operators correctly to gain high marks in this task. It is vital that candidates are taught these skills and that they are assessed accurately. The evidence provided and the assessment of this task improved again in this series but there are still instances where candidates are awarded high marks in mark band 2 for advanced searches where the same search terms had been entered into each box, which is unproductive.

Find web pages that have...

all these words:

this exact wording or phrase:

one or more of these words: OR

But don't show pages that have...

any of these unwanted words:

INCORRECT The same words have been used in both boxes.

Find web pages that have...

all these words:

this exact wording or phrase:

one or more of these words: OR OR

But don't show pages that have...

any of these unwanted words:

CORRECT The candidate has thought about what they are looking for and used the advanced search boxes properly.

While some good use of logical and other operators was seen, some candidates struggled to make correct use of these techniques. Typical errors to be avoided include: using NOT in Google with the first few results including the word which they wanted to omit, not using quotes around phrases, not using spaces properly around + and – operators, entering logical operators in lower case and placing logical operators within quotes. Errors need to be taken into account when awarding marks for this task as both mark bands 2 and 3 require the techniques to be used correctly.

[Advanced Search](#)
[Language Tools](#)

INCORRECT Quotes are missing from phrases and spacing for the – sign is incorrect.

 [Advar](#)

Search: the web pages from the UK

CORRECT Quotes have been used around phrases and the spacing round the + and - signs is correct.

For high marks within mark band 3, candidates need to use a wide range of operators and other search aides within their own constructed search strings.

Task a also requires candidates to list the information required before they go looking for it, a detailed comparison of search results and a recommendation of which search engine is the best to use for the investigation. Candidates need to ensure they take a logical approach to this task to ensure that evidence is not missed out. Candidates need to start off by listing the information required – this helps them to focus on the investigation and understand exactly what they are looking for. The next step should be to use simple searches and then the advanced search facility of three different engines in an attempt to find some of the information required. After a few such searches have been carried out it is then expected that a detailed comparison is written which not only compares the number of results yielded but also the quality of the results in terms of the relevance and validity of the information being displayed. It is sensible to suggest

that candidates carry out a few identical searches in the different engines to make any comparisons fair. Using a table often aids the comparison. Candidates then need to recommend which search engine they intend to use for the rest of the investigation and why. For higher marks this needs to be in detail and explanations should draw on the results from the searches and the comparisons made. At this point candidates should use Boolean and other search aides (listed on page 31 of the qualification specification), within the chosen search engine only, to find all the information required to complete the investigation. These searches should be documented clearly with screen shots showing the terms used and the results.

Task b requires candidates to use large websites to find information for their investigation. Candidates must start off by listing what information is required, as it is otherwise difficult to determine whether the information found demonstrably meets their needs, as required by mark band 3. Not all had done so. It is expected that the online database used is separate from the large website. In some cases candidates had used different parts of the same website to evidence both aspects, which is not acceptable. Candidates need to provide overt evidence of using menus and other navigational aides, rather than concentrating on the use of internal searches. Also, some simple searches using an internal search facility is expected to be included for mark band 2. Many candidates had provided evidence of at least one search of an online database using an advanced search facility but few had provided the range of complex searches required for higher marks or failed to show that they had found the required information. Candidates should use an online database which provides an advanced search facility, rather than attempting to use logical operators in a simple search box – they rarely work.

Most candidates had been provided with a suitable local database to interrogate for task c – a range of suitable databases for most of the commonly used assignments can be found on the OCR social community. In most cases, a good range of operators had been used in searches but reports were not always well-presented. However, in other cases the range of operators used in searches was very limited for the mark awarded. Reports produced should be customised so they present data clearly and neatly – they need to have the correct page orientation for the data being displayed, meaningful titles and ensure fields are wide enough for the data to be fully displayed. It should be clear exactly what the report shows without reference to any other material. It is also expected that reports are printed or, if work is being submitted electronically, output to a portable document file for both mark bands 2 and 3 of this task. Candidates must provide screen print evidence of their queries in design view. However, it is not necessary to include a step by step guide to how they built their queries or, indeed, how they created and edited their reports.

Some well-designed spreadsheets were seen for task d which made good use of complex formulae and functions and used well constructed macros to speed up the input of data and the production of results. Other spreadsheets were too simple for this level of qualification with macros mainly used for navigation. The Amplification of Criteria (page 158 of the specification) suggests the types of formulae and functions expected for mark bands 2 and 3. Macros should replace more than one action to be of value. Creating a macro to print a whole sheet is fairly pointless, as the user would only need to click the print button on the toolbar, but creating a macro to print a selected area of the sheet would reduce the number of actions required. It was not always possible to determine whether the spreadsheet was well-designed, as candidates had produced a report on the production of the spreadsheet, with cropped screen shots of the relevant areas of the spreadsheet or the functions used. Such detailed documentation is not required. Candidates should provide printouts or screen prints of each sheet in both value and formula view and only describe and evidence those features which are not obvious from these printouts. Some very thorough testing tables were seen that covered all aspects of the spreadsheet but not all candidates went on to provide evidence that the testing had been carried out, other than a comment in the table. Candidates should provide screen print evidence to show that the tests have been carried out. Other candidates based their testing on whether the macros worked, rather than the accuracy of results produced by formulae. A simple way of illustrating that formulae work would be to replace the data found with dummy data, ie 1s 2s or 10s, so that

it can be easily seen that the formulae work as intended. Alternatively, candidates can do some manual calculations, showing their working out, using the actual data.

Although many candidates understand that the emphasis of task e is to report on the findings of their investigation, many others provided a description of what they did, rather than what they found out. Mark band 3 requires candidates to produce a well-structured presentation of their results which effectively combines at least five types of information from at least five different sources. The term 'presentation' is used in its widest sense and candidates might find it easier to provide the coherence and quality required by this mark band if they presented the information in a report or newsletter, rather than a slide presentation. As far as possible, candidates should import or copy and paste data from spreadsheets, web pages and other sources into their presentation. It is not sufficient to simply include screen prints. It is the ability to combine different types of information that is being tested. If all the information is included as screen prints, candidates are effectively only combining text and graphics. Some candidates forgot the design and presentation principles learnt in G040 and included far too much information on each slide of a presentation. Candidates must list their sources to be awarded marks in this task and this list should be an integral part of the presentation. Some had created a separate list of sources for the whole unit or had failed to list their sources. Mark band 3 requires a detailed bibliography, which requires the same information included as in task b(i) of unit G040. In task f candidates need to comment on the way in which they refined the presentation of results. The inclusion of an annotated draft of the 'presentation' with relevant reflective annotation would be helpful to secure marks for the evaluation task.

Task f requires candidates to evaluate the methods used to search for and present information. This was evidenced well by some candidates but others provided a task-by-task evaluation or focused only on search methods rather than the techniques used to both search and present the results. Ongoing reflection is required for mark band 3 and, although this was present in some cases for searching, candidates often forgot to evaluate over time how they were presenting what they had found. Although presenting results mainly refers to task e, candidates could also gain marks for evaluating how they adjusted the reports made in task c to suit their purpose better and how, in task d, they adjusted the charts they had automatically generated with a wizard, so the information displayed was easier to understand. Care is needed that candidates actually evaluate the methods used, rather than simply describing what they did.

Task g requires candidates to discuss the impact of the availability of electronic information. There was a tendency for candidates to either focus on generic benefits of the internet or on how their friends and family use it, rather than considering the impacts. Others discussed the impact of the increased availability of ICT and technology in general, rather than focussing on electronic information. For mark band 2, candidates need to research the issues related to electronic information being available outside their daily life. At the very least, this may include looking for a house to buy and how electronic information has sped this process up, although for higher marks wider issues should be considered such as early warning systems and political restrictions. Page 159 of the specification suggests other aspects which could be covered. Mark band 3, in addition, requires candidates to consider what the impact of organisations communicating electronically has on society. This should relate to the use of websites, email, text messages and other electronic methods which organisations now use to communicate with society as a whole and individuals within it, rather than the use of electronic communication within a business or for business to business communication. They also need to analyse the consequences for people who do not have or do not want access to electronic information. Too often candidates were able to identify who these people were without considering the impact this lack of access might have. Centres are reminded that the quality of written communication is assessed through this task and that they need to adjust marks to take account of errors in spelling, punctuation and grammar.

G043 – System specification and configuration

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. Candidates should then consider the types of input and output devices and the software required. For example, they might suggest the need for a scanner or word processing software, rather than specifying the specific version of each, which should appear in task b. There should be a logical progression to this task with candidates considering each task the user wants to carry out, identifying the data which will be input and the type of output required and then suggesting the types of hardware and software that would be needed. Many candidates considered hardware and software first with separate sections for inputs and output requirements. Some concentrated solely on these aspects and forgot to actually describe the tasks the user wanted to carry out. For maximum marks in task a, all types of input and required output should be included in detailed descriptions of all the required tasks and types of hardware and software should also be identified to meet all of the required tasks. This task was often leniently assessed. It is vital that the user requirements are clearly understood, so that candidates can evaluate how well their specification meets these requirements, as required by task g.

In task b, candidates should use these detailed requirements to specify a system that can carry out the required tasks. The hardware specification should be complete (a processor without a motherboard or tower unit is not much use), up-to-date 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 why this particular component meets the user requirements. Where candidates do not understand what is required to build a computer from scratch, they should select a ready-built PC and match its specification to the user requirements. As well as specifying the hardware and software required, candidates must include the specification of any required configuration and designs of toolbars, templates, menus and macros. All of this should form a stand-alone document which could be presented to the user for their approval. While candidates had provided good hardware and software specifications, specification of the configuration changes required was sometimes omitted and designs for toolbars, templates, menus and macros lacked the detail required for higher marks.

Most candidates provided suitable evidence of the practical tasks carried out by providing photographic or screen print evidence supported by a description of what they had done. There was some good use of observation records but these did not always give the individual comments on each candidate's performance needed to fully contribute to the evidence. Testing was often the weakest aspect of this task. Candidates must include a test specification as well as evidence of testing to go beyond mark band 1 and there must be evidence of testing for all mark bands. 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 creating templates, toolbars, menus and macros such as annotated screen prints or printouts. Any screen prints must be large enough for the content to be read. At least one each of all four items must be evidenced to go beyond mark band 1, including evidence of testing. For mark band 3, more than one of each item must be installed and tested; 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. In some cases, mark band 3 was awarded when only one of each item had been installed and tested.

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 the 'Safety and security' section on page 39 of the qualification specification. While most ergonomic issues were covered, management issues were not always covered in sufficient detail. Insufficient account was taken of poor spelling, grammar and punctuation when awarding marks for this task.

Most candidates correctly addressed task f this session, although a little more detail is required. Centres should refer to the 'Basics of software development' section on page 39 of the qualification specification.

Candidates who approached their evaluation by addressing the evaluation of their specifications and the evaluation of the methods they used for installation, configuration and testing as two separate sections performed well in task g. For further improvement, the first section could appear immediately after the specification, while it is fresh in candidates' minds, and consider how well it meets the needs of the user as identified in task a. For mark band 3, candidates need to show that they have identified strengths and weaknesses in their initial specification and refined it to meet the user's needs more closely. Some candidates evaluated the method used to produce and present the specification, rather than how well it met the user's needs. This may have been because these needs had not been defined sufficiently clearly in task a. The second evaluation could be produced immediately after completing the practical tasks and consider how the candidate went about them, any problems which arose, how these were overcome and, for mark band 3, how they might approach a similar task in the future.

G044 – Problem solving using ICT

The entry for this unit was small, resulting in too few centres being moderated to make generic comments. The following is offered as guidance.

The key to candidates performing well in this unit is that they apply the knowledge gained from the text book and research to the scenario provided, rather than simply providing theoretical responses. There were good examples of system diagrams, although explanations of the system boundaries and environment lacked detail. 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

Some candidates provided good evidence for this unit. Others lacked the understanding required, particularly in relation to the feasibility report, data flow diagrams (DFDs) and entity relationship diagrams (ERDs). The sample assignment 'The Perfect Pie' was a popular choice for this unit. Some centres had produced their own assignments, which were equally valid.

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 qualification 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 the 'Structured analysis' section of the qualification specification, as far as the first bullet list on page 48, 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 the 'Design of forms and layouts' section. Task c should include the content of 'The investigation stage' section on Page 46. 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 are best included here. While some candidates provided good descriptions with well-chosen examples, others provided limited detail in their descriptions or failed to include examples of how each technique would be used.

Task d

The report for this task should include both feasibility and design. The feasibility report is assessed in task d(i) and the designs in task d(ii). The alternative solutions considered in the feasibility report 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 and yet others described potential solutions and recommended one of them with no consideration of feasibility. The number of marks available for this task should be taken as a guide to the depth of evidence required. As with task e in G043, insufficient account was taken of poor spelling, grammar and punctuation when awarding marks for this task. Candidates must include designs for input screens, output screens and reports for task d(ii). The latter should include consideration of any calculations required to produce the output. Standard design concepts, such as font styles and sizes and the colours to be used need to be considered to progress beyond mark band 1 in task d(ii). Some candidates produced detailed designs with clear evidence that they had considered standard design concepts. It is expected that these designs will be hand-drawn but candidates should be encouraged to use a ruler to ensure they are neat and easy to follow. If candidates produce designs electronically, they must be designs and not implementations of the forms and reports.

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. There was some leniency in the assessment of this task where the DFDs produced did not correctly represent the current system or the documentation lacked the required detail. All entities, processes, stores and data flows need to be described in detail to achieve mark band 3.

Task f

Some good ERDs were seen but the documentation sometimes 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. Similarly, errors were seen in data dictionaries such as incorrect relationships given or the wrong end of the relationship being identified.

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. Candidates must link their evaluation back to the assignment so that they are considering the suitability of their solution for the organisation being studied.

G046 – Communicating using computers

Although the work submitted for this unit was generally appropriate, there was some lenient assessment, particularly in relation to intranets in tasks a and bandwidth in task c.

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. The organisations' objectives were not always stated overtly. These can be easily found through mission statements on the company's website or by contacting them directly. Candidates must describe advantages and disadvantages of both internet and intranet use, as

well as suggesting several improvements to both to achieve mark band 2. To achieve mark band 3 candidates must justify the improvements they suggest in relation to meeting the organisation's objectives. Many candidates did not do so. 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 the 'Internet websites' section on page 54 of the specification to identify what is meant by internet technologies for tasks b(i) and d(i). Discussion of HTML is not sufficient. Mark band 2 of task b(i) requires candidates to describe the use of at least two internet technologies in the nominated website. They must identify where in the website these are used, rather than simply providing a generic description. In mark band 3 as well as explaining the use of the two internet technologies, candidates must analyse how well the purpose of the website is met. This was often overlooked when awarding marks. There was improvement seen in this task, particularly in the description of purpose and services. In task b(ii), 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 struggle when they try to annotate sections of CSS or JavaScript, rather than simple HTML tags, such as ` `, which is all that is required. Marks were awarded somewhat leniently for this task. Candidates do not need to include the entire code for a number of 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. 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.

The quality of candidates' written communication is assessed through task c, so it is vital that candidates produce a single well-structured report to gain high marks. As in other units, insufficient account was taken of poor spelling, punctuation and grammar. Some candidates showed good understanding of the requirements for creating and hosting a website. Other candidates tended only to consider the costs of hosting the site online; bandwidth was given little consideration and candidates failed to describe a range of connection methods, hardware and software. 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. For mark band 3 candidates should include some calculation of the likely bandwidth requirements and justification of the chosen ISP in relation to technical requirements. There was some improvement in the consideration of bandwidth this session.

Task d(i) requires candidates to design and create a web page. Whilst they are only required to design and create a single page, candidates should plan the website it will be part of, at least in outline. This should not simply be the creation of a single web page in isolation. Candidates must identify at least two different internet technologies 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, together with a high quality web page and explanation of the internet technologies used in it. Where marking was lenient it was because there was insufficient evidence of the internet technologies used or the same technology had been used twice. Task d(ii) is about evaluating how candidates approached the development and uploading of the web page, rather than the web page produced. This was accurately assessed in most 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. Most candidates are now including the information required as well as hardware and software in their descriptions. Candidates are only required to install one piece of communication software in all mark bands. Differentiation between the mark bands is in how well the installation is documented. For mark band 3, candidates should be

producing detailed documentation which would enable someone else to install and configure the 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. As with the installation, the differentiation in the browser configuration is in how well the process is explained and illustrated. The email part of the task requires increasingly complex handling of received emails, with the use of filters required at mark band 3. While candidates had clearly carried out all of the required practical tasks, the descriptions/explanations sometimes lacked the detail required for the marks awarded.

G047 – Introduction to programming

The work seen for this unit was generally of a higher standard than seen previously and mostly accurately assessed.

In task a, centres need to ensure that the program listing provided includes sufficient techniques for candidates to identify. Centres need to differentiate between the two parts of the task. Task a(i) requires candidates to identify the techniques, eg they should indicate where different constructs, such as selection or repetition, have been used, while task a(ii) requires candidates to explain what these constructs do in relation to the program. For example, in the case of modularity, candidates should explain what a subroutine, function or procedure is designed to do, how it is defined and how and when it is called elsewhere in the program. For higher marks, candidates must comment on the facilities used in the code to improve readability and maintainability. This was often omitted.

Task b requires centres to provide candidates with designs for the programs that they will implement. There was little evidence of designs having been provided. Centres may wish to look at the sample assignments provided on the OCR website to see what they should provide for candidates. There was generally a good level of understanding demonstrated, and assessment tended to be quite accurate. In particular, much less credit was given for the use of modularity built into the programming languages than in previous sessions, with some candidates attempting to write their own subroutines. However, modularity was not always included.

Most candidates had produced suitable programs for task b. There was evidence of a good range of programming features and constructs across the suite of programs, with an increase in the use of file handling, although candidates should be encouraged to use CASE statements to replace multiple nested ifs. In task b(i), for the award of mark band 3, all of the techniques listed in the 'Program structure' section on page 56 of the qualification specification must have been used across the programs created, including those to improve the readability and maintainability of the programs. Techniques to improve readability and maintainability in particular were poorly evidenced; including comments using the comment facility of the language, naming variables appropriately and using indentation for selection and iterations would all assist with the readability and maintainability of programs. Similarly, in task b(ii), the purpose of the programming language used was often not addressed and there was limited description of local and global variables. For task b(iii), some evidence of testing that the program works as intended would improve the evidence, as would some discussion of the techniques used to improve the efficiency of the coding. Without some evidence of the briefs/designs given to candidates it is difficult for moderators to confirm that the programs meet these briefs/designs.

Most candidates had produced separate reports for tasks ci and cii. However, task ci should discuss a range of programming languages other than the two candidates have used. Some candidates were awarded high marks in this task when they had not described a wide range of languages, or had not explained them in sufficient detail. Apart from discussing the appropriateness of the languages used and analysing their experiences, for mark band 2 in task c(ii), candidates need to suggest at least one improvement to each program and, for mark band 3, they need to give a valid reason for each improvement. Candidates should revisit the program requirements and ask themselves whether their program really does what it is supposed to and how they could make it better.

Moderation Report on GCE Applied ICT (A2 Units)

General

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 to both.

Some centres provided clear details of 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.

Although annotation of candidate work is not essential, its appropriate use is very helpful and is an example of best practice.

The volume of evidence presented by some candidates was considered to be excessive. On the whole, portfolios produced by candidates that focused on the evidence required normally scored better when assessed by the teacher. Surplus evidence is more difficult for teachers to assess and moderators to moderate.

Centres are reminded of the importance of meeting the deadlines for the submission of marks to Moderator and OCR 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.

Centres need to take care with administration for this qualification. There are two component codes; one for OCR Repository entries and one for postal moderation entries. A number of centres made Repository entries when they intended to make postal moderation entries.

A number of centres made careless mistakes with marks resulting in amendments to marks submitted. This slows down the moderation process and centres risk delays to the issue of results while these issues are resolved.

Comments on individual units

G049 – Numerical modelling using spreadsheets

More centres correctly identified that the emphasis of this unit is on numerical modelling rather than data manipulation, as has been fed back in every Principal Moderator report for this unit. It is pleasing to note that the proportion of centres failing to focus on numerical modelling was lower than in previous sessions. The problem that the candidates attempted to solve in many cases provided the opportunity for significant numerical processing with a small number of centres focussing on spreadsheet tasks with little numerical modelling. Using a spreadsheet to simply store and present information, eg database type solutions that involve little or no data processing are not suitable for this unit as candidates are unlikely to be able to access the marks relating to numerical modelling in the various tasks.

The design specifications produced by many candidates were detailed while in other instances they lacked the necessary detail. At the simplest level, design specifications 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 produced a specification that was detailed enough to enable a competent third party to implement it independently.

The solution implemented in task b(i) and task b(ii) by some candidates showed clear evidence of the use of complex spreadsheet facilities, as listed on page 63 of the qualification specification, as well as clear evidence of a range of spreadsheet functions appropriate to the solution of the problem. The majority of centres correctly identified the use of specialised built-in functions with a small proportion of centres incorrectly crediting candidates for functions such as lookup functions as specialised built-in functions when such functions are common built-in spreadsheet functions. A candidate failing to utilise specialised built-in functions should be awarded a mark in the lower mark bands. 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. A document such as a witness statement recording the functions used, on its own, is not appropriate evidence for task b(i) or task b(ii).

For task c, the evidence presented often detailed the problems encountered by the candidate whilst developing the spreadsheet solution and how these were surmounted, allowing the candidate to access the marks for this task. The teacher may have been aware of some of these problems over the period of time that the portfolio was generated and encouraged candidates to include the evidence within the portfolio to support the marks awarded.

Testing the spreadsheet solution, in task d, was carried out well by a small proportion of candidates. Such portfolios included clear evidence of planning the testing to be performed and addressed testing functionality with the use of normal, abnormal and boundary data. To be awarded a mark beyond mark band 1, candidates need to demonstrate that the solution meets the requirements of the design specification; in only some instances was there explicit evidence to support this.

The technical and user documentation produced for task e need to be separate documents as they are for different readers; this was correctly presented by the majority of candidates. The technical documentation usually provided sufficient details to allow somebody to maintain or amend the spreadsheet structure. In a small number of 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 many cases the evaluation was descriptive rather than critical, restricting marks that should have been awarded. Candidates that performed well ensured that the evaluation referred back to the initial requirements of the problem and, in order to access the higher mark bands, considered feedback from users and related the evaluation to the design specification.

G050 – Interactive multimedia products

Many candidates used appropriate software for this unit. A small number of centres still need to give careful consideration to the software used to evidence this unit. Page 69 of the specification 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, ie software that allowed the candidate the opportunity to incorporate a variety of interaction within the final product. 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.

To access the higher marks in task a, candidates evaluated the commercial multimedia products, rather than describe them; some teachers awarded mark band 3 for descriptions rather than evaluations. There must also be a detailed explanation of how the product influenced the design of the product that the candidates produce. A smaller number of candidates than

previous sessions evaluated web-based multimedia products rather than non web-based multimedia products. Some candidates produced evaluations that were descriptive in nature rather than a critical analysis of the products; this restricted the marks awarded to a maximum of mark band 2.

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. Some candidates that had been awarded mark band 3 had produced detailed designs, as required.

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. Again, an analysis that was not critical in nature restricted marks awarded to a maximum of mark band 2.

Task c(i) and task c(ii) require evidence of the use of a variety of ICT skills to produce a multimedia solution. The nature of these skills is identified on page 69 of the qualification specification. Many candidates failed to identify how they had used their initiative to develop and extend their ICT skills to create a variety of elements to be used in the product. Candidates could annotate their evidence to explain how the skills have been used and how the skills are aiding the development of the multimedia product. Task c(iii) 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 to a high standard 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; the quality of evidence varied from centre to centre. Candidates are encouraged to incorporate images within their user guide in order to clarify the steps within it. 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 an explanation of what the purpose of the multimedia presentation was.

For task f some candidates critically analysed 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. Evidence for this task must also incorporate a critical analysis of the candidate's own performance to secure mark band 3.

G051 – Publishing

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

The evidence of the meeting(s) with clients varied greatly in evidence presented for task a. Some candidates could not access real clients so the teacher, or other suitable person, acted as the client; this is acceptable. It is important that interim and final deadline dates are considered to move beyond mark band 1.

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 was no evidence to support this.

Evidence for task b(ii) and task b(iii) sometimes showed clear evidence of the design stage processes. To access marks in mark band 2 in task b(ii) 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.

For task b(iii) annotation of evidence generated enabled candidates to access mark band 2, whereas an accompanying explanation enabled candidates to access mark band 3. Many centres awarded marks based on the final product when the candidate had included little or no explanation of the design stages followed and how this enabled the production of the product. Production of the product does not imply any understanding of the process and overt evidence is required.

Higher marks in task c(i) were awarded where clear evidence of using styles and attributes to produce a publishable version of the agreed design were included. The work of some candidates did not match the agreed design. Candidates are required to evidence 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. Candidates accessing the higher mark points sometimes demonstrated a clear understanding of the design stage processes. A number of centres gave high marks in task c(i) when the candidate had made use of WordArt; at this level candidates should be using style sheets to control the appearance of the publication and the presence of WordArt in a publication suggests that the candidate has little understanding of the design stage processes. Many candidates had made simple errors in their publications and these had not been identified by the assessor; for example, a contents page with page numbers for the sections of the document, yet the pages of the publication did not include page numbers or content of the publication was not displayed within the printable area of the publication.

The letter produced for task c(ii) lacked detail in the work of some candidates. The unit specification identifies the required content of the letter.

Task d(i) and task d(ii) require analysis of the CRC and how the solution was refined to meet the client's needs as well as an analysis of the candidate's performance. Candidates in mark band 3 sometimes produced a critical analysis, as required. There will be an evaluation, not a description, of the candidate's role in the development of the solution for higher marks.

G052 – Artwork and imaging

Some candidates produced a high quality portfolio of artwork as required for the higher marks in task a. In task a, some candidates failed to include samples of artwork produced to cover 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 a number of portfolios where 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 qualification specification addressing the development of such items and such evidence should be used for those units. The artwork must be sufficiently detailed to allow the candidate the opportunity to develop artwork and images using a variety of skills listed on page 77 of the qualification specification.

Task b(i) was well evidenced by a small number of candidates where the sketches, in response to the client brief, were detailed and considered 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(iii) requires candidates to show development of the product and the use of ICT tools, not just to present the final product. Some candidates produced high quality artwork with a clear explanation of the software features they were using and why they were using these features and how these features impacted upon the artwork. There were some instances where candidates appeared to have a limited understanding of the facilities to use within the artwork software and in some cases were attempting to produce final product material through a process of trial and error. Task b(iv) requires explicit evidence that ICT skills have been developed; this was evidenced well by a small number of candidates. A diary can help to evidence this, or alternatively, annotated screenshots can provide evidence. Evidence for task b(v) varied greatly as some candidates had not considered client feedback in order to access higher mark bands.

Task c required a critical analysis of the final product identifying how well it met the brief; a small number of candidates achieved this. 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 of working with computer artwork found it difficult to critically reflect on the final product and identify how weaknesses could be tackled in future briefs.

G053 – Developing and creating websites

This unit remains the most popular unit in the A2 specification. There was evidence of some high quality websites that had been produced and in some cases these were supported by appropriate planning and implementation evidence.

For task a, candidates must explain the reasons for choosing, or not choosing, features in web pages examined to be awarded mark band 2, a few did not. In order to access mark band 3, there must be a critical analysis of the web pages examined; a number of candidates had achieved this. 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, although this is not necessary. 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 candidate work; the most common omission was the index of pages in the website. Only some candidates had sufficiently analysed the website to be produced.

In task c, to secure mark band 3, a full explanation is required to explain the design techniques, hyperlinks, multimedia and interactive features used; a small number of candidates had evidenced this.

Evidence of understanding HTML script in task d was implicit in the work of some candidates rather than explicit. 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; this was provided by many candidates. 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 and adding HTML script. The use of JavaScript contributes to task c and not task d. This has been contained within reports for previous sessions, yet some centres have failed to address this issue.

In task e most candidates ensured 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, meeting the requirements of mark band 2 rather than mark band 3.

G056 – Program design, production and testing

Only a small number of candidates were entered for this unit. There were some instances of high quality work with candidates and centres appearing to be very familiar with the unit requirements.

In task a, some candidates had only briefly identified input, processing and output. This could have been more detailed and would have helped to develop the specification.

In task b a clear description of design work is required; addressing processes, input, output, validation, verification, data structures and file structures. Only a small number of candidates addressed all of these.

Candidates must include evidence in task c to show that they have produced a fully working program. A small number of candidates provided clear evidence of development of skills within this task.

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 little 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

The design produced by candidates within task a must be sufficiently detailed to allow a competent third party to implement the designs if mark band 3 marks are to be considered.

In order to access mark points beyond mark band 1 in task b, 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 provided 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. Many candidates provided good evidence to explain how the model was normalised, although this varied from centre to centre.

The data input forms for task c required evidence of data validation and should have been fully labelled in order to access mark band 2; this was evidenced by some candidates. 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 d. More able candidates designed reports with evidence of grouping, arithmetic formulae and used data from more than one table, accessing mark band 3. In a small number of instances there was no evidence of the actual report, only the design of the report; this does not confirm that all data is fully displayed within the report.

The database documentation in task e must enable somebody else to maintain the database. There was some 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 e.

Testing of the database in task f 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. Some candidates included high quality testing.

The reflection within task g 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

There is no requirement in this unit for candidates to build a system from components.

Task a requires candidates to plan questions to ask each user. They must use their responses to establish the user's requirements. To achieve mark band 2 in task a, candidates should include detailed questions. Mark band 3 in task a requires more detailed analysis of the user requirements. Candidates must also include supplementary questions. There was good evidence in the work of some candidates of the supplementary questions used. In a small number of instances the candidates used language in questions which was too technical in nature.

Candidates need to ensure that they use non-technical language in their reports to users for task b. To achieve mark band 2 in task b, candidates should justify their choice of each component. Mark band 3 in task b requires candidates to provide a detailed explanation of the impact on their recommended system of the compatibility of the components and other factors such as cost, etc.

Mark band 3 in task c, requires candidates to upgrade a system where additional components and/or reconfiguration are required, as well as an upgrade that requires the BIOS to be reset. There was good evidence in the work of a small number of candidates. Often this was supported by photographic evidence.

For mark band 1 in task d, candidates should upgrade a system by replacing one component with another that is compatible with the existing system. For mark band 2 in task d, candidates should upgrade a system where the upgrade of one component requires the replacement of another. For mark band 3 in task d, candidates should upgrade a system where the upgrade of one component requires the replacement of another and that requires the BIOS to be changed or upgraded. Only a small number of candidates evidenced mark band 3 in this task. A witness statement can provide supporting evidence for task d; however, it must include details of the activities undertaken by the candidate.

For mark band 3 in task e, it is expected that candidates will index their work so as to allow easy reference in the future. This task becomes difficult to award without clear page numbering and the ability to link a problem with a solution.

Task f requires candidates to consider the accuracy, currency and relevance of the information sources used. Some candidates had done this quite well.

For task g candidates should produce a report which contains comments on how their specifications met the needs of their users and the approach they took to specifying, upgrading and repairing ICT systems. Reports that are descriptive in nature will restrict candidates to a maximum mark in mark band 2.

G059 – ICT solutions for people with individual needs

Candidates will produce a report or presentation for ICT solutions which assesses the needs, defines ICT solutions and evaluates the solutions in response to three case studies. Each of the individuals in these case studies will have different needs and candidates need to include one case study that relates to an individual who has sensory needs.

A small number of the candidates had considered the implications of the legislation on the individual in each case study 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.

Task c required candidates to produce an analysis of their solutions in order to gain marks in mark band 3. This was done well by a small number of candidates.

Task d 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.

The quality of evidence presented by some candidates for task e was very good. Evidence requirements for task e 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 e 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. Candidates with access to specialist hardware and software found this task to be much more accessible.

G041 How organisations use ICT

General Comments

Candidates performed well in Task 2 and questions 1, 2 and 5 of the question paper, demonstrating some understanding of the case study of Pounds Car Hire. However, candidates did not seem to have the knowledge and understanding of how organisations use ICT to provide suitable responses to Task 3, questions 6 and 7 in Section A and all of Section B. Overall, candidates performed similarly to previous series, with perhaps a few more well-prepared candidates who were able to gain high marks.

Most candidates attempted all of the questions but some lost marks because they did not apply their responses to the question set – not reading/not understanding the question/not giving the type of response required. This was particularly the case in Task 3, where responses did not always address the task set. The skill of picking out the key points required is something that needs to be taught, as is using the number of marks available as a guide to the number of points they should make.

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 topics in the Unit Content section of the specification 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.

Most pre-prepared work was word processed and most candidates had clearly labelled Tasks 2 and 3. There was a great variety in the standard of Task 1 work attached. Some candidates included huge amounts of text for their Task 1 notes, which were not useful to them in the exam. Candidates should be encouraged to keep to the point in their notes so that they are able to refer to them for their answers in the exam. Some candidates did not include Task 1 notes in their pre-release work. Centres are reminded that if these are taken in to the examination they must be attached to the paper and submitted to the examiner. If candidates fail to complete Task 1, they are putting themselves at a disadvantage, as they are unlikely to have the detailed knowledge of the case study required to answer section A questions successfully.

All reports for Task 3 were word-processed as required. Hand-drawn diagrams are acceptable for Task 2 and candidates may benefit from at least hand-labelling the information flows, as marks were sometimes lost due to candidates’ inability to manipulate text boxes. However, hand-drawn diagrams should be clearly laid out with candidates making use of a ruler to draw boxes and arrows. Where candidates use colour to link a label to the relevant arrow, they should ensure that the colours chosen are visible and distinguishable. It is not necessary to use a different shade for every arrow, as long as those labels that could be ambiguous are in different colours.

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. The requirements of Task 1 change from year to year, so centres need to ensure that the task is read carefully and responded to appropriately. 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.

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. Candidates should be warned that it is very obvious when they share diagrams for Task 2, even if they make changes to the formatting, or share files for Task 3, even if they change the order of the points/paragraphs. While most candidates included the required list of sources, some still failed to do so. Also, quoting the website used in their list of sources does not excuse copying and pasting significant sections into their report.

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. Also, only one Centre Authentication Form is required; it is not necessary to attach one to every script.

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.

If candidates use a supplementary sheet because they run out of space for their answers, 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, possibly losing candidates a significant number of marks.

Comments on Individual Questions

Task 2

This task was well attempted, with suitable diagrams produced, although a few inappropriate diagrams were seen. Centres should look at the diagram provided in the mark scheme as a guide to the type of diagram required. Most candidates gained full marks for the senders/receivers of information but the labelling of the information flows was often imprecise. Where different copies of a document are being passed, it is important that candidates identify which copy and what the document is. Too often marks were lost because candidates identified 'agreement', rather than 'hire agreement', for example. However, there were sufficient information flows for many candidates to still gain full marks. If candidates use abbreviations, they must provide a key to indicate what the abbreviation stands for.

When candidates did not gain full marks it was usually because they had described processes or labelled arrows ambiguously.

Care is needed that the information and method for each information flow is identified, rather than described. Where candidates describe the information flow, they often include other processes and lose marks as a result. Some candidates wrote a whole sentence from the case study on each arrow, rather than picking out the information and method from it. Candidates should be advised against this. They need to be taught to use nouns, rather than verbs, when identifying the information and method. Candidates should get into the habit of writing 'location of car – face-to-face', 'invoice – post' and so on. They are then less likely to fall into the habit of describing processes.

Care is needed that information flows are labelled unambiguously. Marks can only be awarded if it is clear which flow a label refers to. Candidates may find it easier to label the flows by hand, rather than manipulating text boxes. Two or more information flows between the same two people must be represented by separate arrows, each unambiguously labelled. Candidates should also be prepared to move the senders and receivers around when they are producing their diagram so that it is possible to draw an arrow directly from one to another without crossing other arrows or needing to change direction.

Task 3

Candidates must ensure that they actually address the task set. Too many candidates saw the word 'communication' without reading the rest of the task, or the paragraph in the case study that set the scene, and wrote a report about different communication methods, including those already used by the company. A number of candidates focussed on the current communication system, rather than considering how this could be improved, while others focussed on online and website solutions, rather than methods of improving communication between sites and centralising bookings.

The task required candidates to explain improvements to the communication systems and evaluate the impacts on both the company and its staff. Hence, to gain marks in the middle mark band they needed to have considered at least one appropriate improvement along with both positive and negative impacts on both the company and its staff, with some clear reference to examples from the case study. Where candidates had provided suitable improvements, they often provided limited explanation and impacts were either related to the company but not the staff or only positive impacts were considered. Candidates were not required to consider the impacts on customers; many did and gained fewer marks as a result.

Candidates who provided an evaluation of their performance gained most, if not all, the marks available. Others failed to access these marks by not attempting an evaluation. The evaluation should be of the methods used to carry out the research to produce the report, rather than its structure. Candidates need to be more specific in their evaluations, rather than simply providing generic statements such as 'I used the internet'.

- 1 Most candidates could identify the function correctly and also describe tasks by selecting them from the case study. Those who did not score full marks on this question generally identified a role rather than a function or selected answers from the case study inappropriately. For example, by giving 'arrange for amount due to be paid' where they had not previously mentioned VAT. A few gave more than one job function, which meant that they could not be awarded marks for the tasks, as it was not clear to which function each task referred.
- 2 Candidates needed to use the whole case study to gain high marks in this question, rather than simply relying on the brief overview of the Operation Director's role given on the first page. Weaker candidates tended to gain two or three marks from this initial overview, while more able candidates looked elsewhere and were able to gain four or five marks.
- 3 This question required candidates to consider the reporting line between the bottom level of the hierarchy in a car hire outlet to the Managing Director. Those that were able to do so gained full marks but many misunderstood what was required. Some recognised that there was a hierarchical structure involved but described it in general terms, rather than the specific line required. Others gave answers relating to hardware and networks.
- 4 This question required candidates to correctly identify the type of customer of Pounds Car Hire, other than the general public. The remainder of the marks were dependent on this answer being correct. Unfortunately, a significant number of candidates gave a supplier, rather than a type of customer, or gave 'individual' without realising that this would be a member of the general public. Where a correct type of customer was given, most candidates were able to describe the service offered but then confused the personnel and communication processes with those for individuals. Candidates who identified the correct section of the case study were able to gain most of the marks in parts (iii) and (iv).

- 5 Although most candidates scored well in part a, some lost marks because they did not give specific items of information, for example by giving ‘extras’ rather than ‘satnav/baby seat/insurance’. Generic answers such as ‘mouse’, ‘keyboard’ or ‘data entry screen’ were not worthy of credit, so the associated items of information could not be marked.

Part b(i) required candidates to describe both processing and calculation. Providing candidates identified the correct section in the case study, they scored well, with many gaining all five marks. However, to do so, processing as well as calculation had to be included and some failed to do so, limiting the mark available to four.

In part b(ii), candidates needed to realise that, at this stage, the output is the estimated cost of hire. Most did, but a few lost this mark by giving ‘total cost’.

- 6 Candidates must read the question carefully to identify the ICT system they must consider. Many failed to do so and described systems in the head office or the booking system in an outlet, rather than the system used in the workshop. Also, whilst it is pleasing to note that candidates are being taught what is meant by hardware, software, etc they need to apply this knowledge to identify the relevant items within the specified system, rather than just describing what the terms mean.

Throughout the question, candidates need to provide specific examples from the case study to gain the first mark before they can gain a further mark for an explanation.

- (i) Where candidates identified the laptops they usually went on to gain both marks. However, other answers often lacked precision.
 - (ii) Again, identifying and explaining diagnostic software often gained candidates both marks but candidates who gave spreadsheet or stock control software often failed to provide additional information for the second mark.
 - (iii) Candidates found it difficult to identify the input data, often giving ‘mileage’ without indicating that it was either ‘delivery’ or ‘updated’. Candidates did not seem to realise that most of the input would only happen when the cars were delivered, with only the updated mileage being entered at a later date.
 - (iv) This was seldom answered succinctly but candidates often got there in the end. Most answers started off with the manager running the macro but successful candidates then went on to talk about selecting the cars. Candidates needed to understand the difference between the purpose of the macro – to identify cars which need servicing – and the process used to do this, ie selecting cars that met specific criteria.
 - (v) This was reasonably well answered, with many candidates being aware that an output is a report showing cars which need to be serviced. Most candidates who gained the first mark gained both, although a small number missed off the date to be serviced from the second mark.
- 7 There were many very weak answers to all parts of this question. The Display Screen Equipment Regulations are quite clear regarding the actions that an employer must take to comply and these were the only answers accepted in part a. Candidates tended to give the second part of a mark point without giving the first. For example, there were lots of answers related to providing tilt and swivel monitors or comfy chairs without mention of the company needing to ensure that the workstations meet minimum requirements. Marks were most often awarded for ensuring that staff take regular breaks, although planning employees’ work was rarely mentioned, or for arranging eye tests and providing spectacles. However, few recognised that the last point was only the case for those who use VDUs sufficiently to be covered by the legislation. Some answers related to the Health and Safety at Work Act, rather than the Display Screen Equipment Regulations specifically.

Most answers to part b were too vague to be worthy of credit. Some were able to state that employees would suffer less from eyestrain or RSI but could not go on to explain why in relation to the provisions of the Regulations.

Part c was also answered poorly with vague answers relating to cost or working time lost. Some candidates gave answers here that would have gained them marks in part a but failed to gain marks in relation to impacts. As in part b, when candidates did provide a suitable impact, such as the cost of replacing equipment, they were unable to explain this in terms of the requirements of the Regulations.

- 8** Most candidates gained one or two marks on this question, with some incorrectly attempting to relate it to the case study. Many candidates were able to gain first marks by mentioning tasks related to maintenance of hardware or software, or providing answers relating to LANs or WANs, but few provided appropriate expansions for the second mark. When candidates are asked to describe two tasks, they must ensure that they do so, rather than simply list a number of tasks.
- 9** (a) Candidates tended to describe what they see on an invoice rather than its purpose. However, many managed to gain one mark for stating that the total cost of the order would be shown.
- (b) Many candidates showed a good understanding of the calculations that would take place to produce the invoice. However, care is needed in the wording of answers. A common error was 'product **code** multiplied by quantity'. Others failed to go further than adding the item totals, so only gained two of the three marks available.
- (c) It is very unlikely that a receipt would be sent with the goods and this answer, although common, was not acceptable. The question asked for a document, so vague mention of returns was not acceptable but a returns form was.
- 10** Candidates came up with a range of answers for part a, with many of them being correct.

In part b(i) while a detailed explanation of a feedback loop was not expected, candidates were expected to understand the fundamental concept that measurements of the output produced are compared with pre-set values and adjustments made if necessary to provide the consistent output required – few did. Where candidates had been taught this concept they mostly gained all three marks available.

In part b(ii) some candidates identified that there would be less waste or that 24 hour production would be possible and some explained that there would be fewer employees which would therefore lower the wage bill. However, many answers were vague and related more to production control than process control. Many candidates who managed to identify benefits failed to explain them in enough detail to gain the other mark.

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 The Corner Shop, and are not theoretical. However, Section B is theoretical and centres should ensure that candidates have a thorough understanding of the Unit content to enable them to improve their performance in this section.

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 then 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 2012 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 – this can lead to the examiner having to cut the tag to enable them 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 students 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, ie 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 question paper.

Comments on Individual Questions

Task 2

The task required candidates to produce a Rich Picture Diagram (RPD) with the start point being given as when the pre-printed order forms are faxed to the shops and the end point being given as when the stock delivery note is given to the shop manager. Most candidates managed to start and end the RPD at the appropriate points.

The standard of the RPDs submitted in response to this task was, generally, pleasing. It was obvious that many candidates had thought about the pictures they should use to ensure that the RPD was easy to read and understand. Most candidates used pictures taken from the internet or provided in graphics packages.

A few candidates failed to clearly identify the supplier and the warehouse.

Most of the RPDs produced used pictures consistently. For example, the same picture was used throughout the RPD to represent the shop manager.

Some of the RPDs produced by candidates were simply a set of isolated pictures and flows with no representation as to how the complete system, being represented by the RPD, linked together.

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

Task 3

This task required candidates to produce decision tree for the proposed system for The Corner Shop.

Most candidates were able to access the marks available for consistent use of symbols and flows being labelled. However, many candidates failed to access all marks available for defining each process which takes place during the process of ordering stock. If candidates did define the processes then they failed to correctly use the mathematical symbols and logic.

Many candidates, however, failed to access the marks allocated for the use of the decisions. A decision box, in a decision tree must have two outcomes; yes/no. These should be clearly labelled with both actions clearly shown.

Task 4

Candidates were required to design a user interface for the shop managers. The managers needed to use the interface to input the daily stock order. Some candidates provided designs for the complete system rather than the focus of the task. 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, instances of generalised purposes such as ‘to improve/modernise the business’. Some candidates appeared to be confused about the difference between the purpose and the functions of the new system.

Part (b) of the question required candidates to explain why the purpose of a new system needs to be defined. The responses gave tended to focus on the need to find out the problems of the current system to ensure they did not happen in the new system. Many candidates demonstrated confusion about the purpose of a new system.

- 2 The focus of this question was on the user requirements that have been defined by the administration staff.

Many candidates were able to provide responses relating to the administration staff requiring access to the supplier system but then failed to provide further detail to access the further allocated marks.

- 3 The focus of the question was on the functional requirements relating to the suppliers of stock.

Many candidates failed to access the marks available as they did not apply the response to the suppliers of stock.

- 4 The focus of part (a) of this question was on the defined time constraint. Most candidates were able to provide answers relating to the time constraints placed on the implementation of the new system into The Corner Shop.

Part (b) of this question required candidates to identify and describe a further constraint which had been defined by The Corner Shop. Despite the question stating that time and hardware should be excluded in the answer given, some candidates provided answers relating to hardware. Those candidates who did define software as the process constraint generally accessed all marks available. There were some instances of candidates identifying and describing the budget constraint. No information about this had been provided in the case study.

- 5 Many candidates were able to describe two problems caused by the current system at The Corner Shop which related to the stock in the warehouse.

- 6 This question assessed the candidates’ quality of written communication.

Candidates were required to explain the advantages and disadvantages to The Corner Shop of creating the new system by writing bespoke software.

The question asked candidates to relate their answers to The Corner Shop. Candidates who did this gave some excellent and insightful answers.

There seemed to be a good general understanding about the different approaches which can be taken when creating software. Most candidates understood that they had to do more than identify the advantages and disadvantages and there was some attempt to link their answers to the case study. Few, however, provided responses clearly linked to The Corner Shop, in enough depth to score the highest mark band.

Good responses often included, for example, that the software would meet the needs of The Corner Shop and there would be no unwanted/needed features. The better answers would then go on to give examples of the implications of this to The Corner Shop.

A minority of candidates failed to use examples from The Corner Shop. This strategy limited candidates to the lowest mark band.

- 7 Most candidates were able to identify the Data Protection Act as the correct answer for part (i) of this question.

Part (ii) of the question required candidates to identify the type of software most appropriate for storing the supplier details and provide a justification for their choice. Many candidates failed to identify the most appropriate software which was a database.

Part (iii) required some explanation of why security is important when holding the supplier details. To access any of the allocated marks, candidates needed to explain the reasons why the security was important. The reason for this was that personal/company details would be held so The Corner Shop would need to comply with legislation. Many candidates were unable to access these marks in the responses they provided and so did not gain the marks allocated to this part of the question.

- 8 To achieve the marks allocated to this question candidates had to identify the maintenance strategy they would use before they gained any marks for their description.

The question provided a situation which the candidates had to use to select the maintenance method. It was worrying that many candidates failed to provide correct responses. Many candidates wrongly identified the adaptive maintenance method – this would be used for changes in the business, either external or internal. Those candidates who were able to identify the correct maintenance method (perfective) provided good descriptions.

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.

- 9 Very few candidates scored marks on this question. A list of the components of an input specification is given in the unit specification.
- 10 Part (a) of this question required candidates to explain the term validation. There appeared to be many candidates who were either unsure as to what validation is or who confused it with verification.

Validation does not ensure that the correct data is input into the system.

Part (b) of this question required candidates to describe one method of verification. This part of the question was, generally, poorly answered. This tended to stem from the general confusion between verification and validation as demonstrated in part (a) of the question.

- 11** Part (a) of this question required candidates to describe a system flowchart. Many candidates were able to access marks for stating that a systems flowchart contained processes/inputs/outputs but failed to provide further details about these components and how they are used in a systems flowchart. It was worrying to note that many candidates provided responses relating to a flowchart.

Part (b) of this question required candidates to draw and label two components of a systems flowchart. Many candidates failed to access marks on this part of the question by providing symbols which were used in a flowchart or DFD rather than those used in systems flowcharts.

- 12** This question assessed the candidates' quality of written communication and focussed on the use of the day release training method.

Some candidates were able to provide a reasonable description of this training method so accessing a maximum of two marks. Many candidates provided a response stating that this method of training was when all staff in an organisation were trained on the same day.

However, most candidates were unable to provide an evaluation (advantages and disadvantages) of the use of this type of training method.

To reach the higher mark bands candidates should consider the advantages and disadvantages and provide a conclusion.

G055 Networking solutions

Tasks

Tasks were generally presented in a logical order. Where a physical topology diagram was presented before a logical diagram, these were generally labelled. This ensured that the candidates' understanding of the use of 'logical' and 'physical' was sound.

Task 2

This task consisted of five sub-tasks:

Logical topology diagram

This part was answered well with many candidates achieving full marks. Most diagrams showed a logical tree with computers and connection devices clearly labelled and placed in relevant positions within the tree. Diagrams were wholly relevant to the Green Toes case study. A small number of candidates showed a server as a connecting device in their design and lost marks accordingly.

Physical topology diagram

Most candidates gained more than half the available marks for this part. Good use had been made of the floor plan. A good number of candidates created a diagram which matched the logical diagram in its design and these candidates generally gained maximum marks. Common errors included not showing a tree topology, not connecting all devices to the network and showing the server as a connecting device.

Table

This part was not answered well by the majority of candidates. Too many listed connection devices which were not shown on the diagram. Where the correct devices were listed the explanation of why the device had been included was often generic and constituted a description rather than an explanation.

Justification

This part had been misinterpreted by some candidates, who described where the server had been placed in the building rather than in the network. Where candidates had discussed the position in the network most gained one or both available marks. Candidates were generally able to identify that the server needed to be connected to the main switch or the backbone and some were able to refer to its accessibility to all parts of the network.

Evaluation of methods used

Candidates here need to be aware that the evaluation is of the way they completed Task 2, not their solution to Task 2. Common answers included use of the internet and books and any candidate who evaluated methods rather than solutions gained some marks.

Task 3

This task was generally answered well. Candidates who gained marks in the highest band did so because they had identified a range of disadvantages of using networks generally and they had been able to relate these disadvantages to the case study. Many answers were limited to security issues and there was often little attempt to relate these issues to this particular scenario.

Section A

- 1 Where a candidate was able to identify three general benefits of using networks, at least half marks were gained. Students should prepare themselves for the exam at least by knowing the basic issues. Better candidates were able to relate the benefits to the Green Toes case study and gained most of the marks available. The most popular answers were sharing of resources and improved communication using email. Candidates should be better prepared to discuss why these are beneficial.
- 2 This question was poorly answered.
 - (a) This question was about the way that the proxy server manages access. Many candidate answers related why it is needed rather than what it does. Consequently, this part was poorly answered.
 - (b) Candidates were required to relate their answer to the provision of access to the internet. It was common for candidates to gain two of the available marks for identifying things that a router does. The other two marks were not often accessed as candidates did not explain the implication of these functions within the Green Toes network, particularly with reference to accessing the internet from a network computer.
- 3 This question was generally well answered. However, a significant number of candidates demonstrated a lack of understanding of the difference in layer, between a topology (lower layers of OSI model) and a client-server configuration (upper layers of model). Candidates may refer to all computers being able to access the server, again referring to the server as a form of connection device.
 - (a) This part was generally answered well. Candidates were able to identify the benefits of having direct connections between devices although a limited number could identify why this was a benefit.
 - (b) Many candidates were able to explain the disadvantage of cost but were mostly unable to relate this to the Green Toes scenario. This meant that the second and third marks were largely inaccessible.
- 4 This question was very poorly answered. Both parts of the question required candidates to describe what the software does and not what it allows the user to do.
 - (a) Very few candidates were able to describe any particular function of a server operating system.
 - (b) A small minority of candidates were able to describe functions such as requesting access to files on a server. Some candidates gave an answer which would have gained some marks for part a and need to be encouraged to re-read the question before submitting an answer.
- 5 Candidates who gained higher band marks for this question were able to show that they knew what a problem log and a communication log are individually used for. Those who gained the highest marks were able to describe how the information in both logs can be linked to help solve complex problems. Candidates who did not make the distinction between problem and communication logs or who described the logging of problems and solutions in a communication log typically gained marks in the lowest band.

- 6** Although a significant number of candidates gained at least half marks for this question there was generally limited understanding of an extranet as a private information service (rather than full access to the network from outside).
- (a)** This part was the most accurately answered of the three parts. Most answers related to employees working at home.
 - (b)** This part of the question required candidates to consider the use of the extranet from the producer's point of view, this required good knowledge of the case study and was generally quite poorly answered.
 - (c)** Answers generally related to security issues. Candidates generally gained a maximum of half marks as they gave two disadvantages relating to security. Candidates should be encouraged to be aware of the general disadvantages of networks and to apply these to various types of network set up.
- 7** A common mistake displayed in answers to this question was to ignore the stem of the question which specified that the conferences were to be set up for producers, who were described in the case study as 'local'. A significant number of answers related to employees and to producers taking part in conferences while abroad. Little understanding of the technical requirements for either conferencing method was shown. Many candidates were not aware of the resource requirements for these WAN services and were therefore unable to refer to these in their evaluations. Candidates also lost marks because their answer did not indicate that they knew the difference between video and teleconferencing.

Section B

- 8** This question was poorly answered. Candidates were unable to identify that fast, permanent broadband connections are not available in every area.
- 9** This question was well answered. Many candidates were able to describe the conversion of HTML into visual elements and the requesting of pages using URLs.
- 10** This question was not well answered. Many candidates confused WLAN with WAN and described a wide area network for part a, then identified components of a WAN in part b, thereby gaining no marks. Where candidates did describe a wireless network the definition often added nothing to the original term as the candidate didn't include any indication of what the 'wireless' part might mean. Components identified for part b were often not wireless components. Candidates must constantly refer back to the question they were asked and the context in which it is set.
- 11** This question was poorly answered. Although the majority of candidates were able to identify TCP/IP as the most appropriate protocol for this network, few were able to give any reason why this might be the case and many gave a description of what happens when this protocol is being used.
- 12** This question was, again, poorly answered. Many candidates started their answer at the finding an ISP stage of the process and wasted too much of the answer space describing this process. The question asked for the process of setting up the connection between the organisation and its ISP and so needed to start later in the process. Again, candidates should refer back to the question and the context (connecting the network) so that they can consider all parts of the process.

G048 Working to a brief

Introduction

Many centres are now providing clear details of their assessment decisions, with clear reference on the unit recording sheet (URS), combined with further indications on the candidates' work. Where this is done, it makes the process of moderation very much more straightforward, as one is more able to appreciate the decision making process through which the centre has gone when awarding marks.

The volume of evidence provided by some candidates was excessive. For unit G048, it is not necessary for candidates to provide their completed product, as this is assessed as part of the related unit. However, even where candidates have only submitted relevant work, this can still be excessive. For example, tasks a or d are not improved by repetition of reports, but rather by quality work. Further information on these tasks will be provided below.

It is noticeable that where centres play the role of client, or are able to enlist the use of a third party to play this role, candidates have a more realistic experience and are able to write with more focus and clarity throughout their work.

Finally, centres are reminded that candidates must select and complete a task from the list published by OCR. It should be stressed that these tasks should only be used for the year for which they are valid. Where centres allow candidates to work as part of a team, each candidate should still produce an assessable piece of individual work. For example, where candidates are asked to create a website, each candidate should produce a website, rather than a few pages of a website that will then be combined with pages produced by other members of the group.

For task a, as indicated above, many candidates produced reams of material. Unfortunately, a great deal of this was often irrelevant. The focus of this task is on how experts, or those with some experience, complete the same or a similar task to the one that is required. The outcome of this analysis is then used as the basis for the design and creation of the product. Where candidates are able to focus solely on the hows and the whys of the process, there is often a very clear link between this analysis and a successful outcome for the whole process of creating a solution to the brief. However, in many cases, candidates have been encouraged to write about the structure and focus of an organisation. Whilst this may be an interesting introduction to the course, it is not part of the assessed task for task a and should not be submitted.

Both aspects of task b are now completed to a very high standard, albeit with many candidates choosing to only complete one formal plan, rather than two.

The three diary tasks have benefitted from some real clarity of expectation. Task c(i) has, traditionally, been well completed, albeit with interesting interpretations as to what constitutes initiative. For task c(ii), candidates can only be awarded marks from beyond mark band 1 if they show the use of formal techniques – such as meetings with the client – and an awareness of the impact of their actions on others. Centres continue to award mark band 2 and beyond where candidates have given no evidence of the use of formal techniques to complete the overall task. For task c(iii), in order for candidates to be awarded beyond mark band 1, they must provide justification for the actions they have taken in order to address issues. In some cases, marks have been confirmed where the justification has been implied, but centres are reminded of the need for candidates to clearly meet all criteria for the mark awarded.

As mentioned above, the amount of work submitted for task d has started to increase. There is no correlation between the amount of work submitted and the final marks awarded, rather candidates are assessed on their knowledge and skill, both of which can be displayed in a relatively short document.

For the three report tasks, there has been a clear improvement in the quality of the analysis that is being done before the reports are written. This is reflected in the scores that have been awarded and confirmed for these tasks. However, it is worth stressing that task e should be a report into the effectiveness of the planning, rather than what has been done. Therefore, candidates should be writing about how they identified tasks, and how effective this identification process was, rather than how useful a particular tool was in helping the candidate to plan overall. In essence, in order to evaluate the quality of planning that was completed, or the effectiveness of the production of the product, candidates need to be talking about how well they have done what they did, rather than analysing the efficacy of the tools they used.

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