GCE

Applied ICT

Advanced GCE **AS H515/H715**

Advanced Subsidiary GCE **AS H115/H315**

OCR Report to Centres

June 2013

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, Cambridge Nationals, Cambridge Technicals, 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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OCR REPORT TO CENTRES

Overview

Whilst the performance for most units was similar to previous series, and improving in some, such as G048, performance in G041 was disappointing. This demonstrated a lack of understanding of some areas of the unit content and a failure to apply responses to the organisation described in the case study. Centres are reminded that this is an applied qualification and that marks will only be awarded for the tasks and questions in Section A of the question papers if responses are clearly applied, rather than generic. This applies to all three examined units.

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. Care is also needed when additional answer sheets are used, as these can easily get 'lost' amongst the pages of the pre-release work. Please encourage candidates to indicate on the question paper when they have continued on a separate sheet.

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 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 on each piece of coursework cannot be over-emphasised. Moderators must be able to match the work to the sample on Moderation Manager, 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 both the AS and A2 moderated units, including G048. 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.

H115/315 GCE Applied ICT (AS units)

General

While many centres marked their candidates' coursework accurately, with many centres' marks falling within the allowed tolerance, there were some centres where assessors had clearly misunderstood the assessment requirements or the standards expected. 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 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 that are sampled, it is not possible to identify them for candidates who are not in the sample.

While most mark sheets and work were received on time. There were a few centres where both mark sheets and work were received very late or where 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 request for sample 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 few 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 you use the correct component code for all future sessions.

When submitting work via the Repository, please encourage candidates to save their work in as few files as possible and to use file names that 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. 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 invalid order of merit issues are avoided.

Whilst it is acceptable to provide guidance that breaks down the assessment criteria into more candidate-friendly language, care is needed that candidates are not provided with instructions, templates or writing frames that 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 very 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 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. However, it is not recommended for all six documents to be discussed together, as some had tried to do. 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 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 that can include calculations and be validated.

To achieve beyond mark band 1 of Task bi, 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 bii. 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 a screen, would be very difficult to read from the back of a room. Documents 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 biv is improving with many candidates showing on-going 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.

There was also very little on how they would approach a similar task in future in some cases. 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 bv were better understood than in previous sessions, although a few candidates discussed types of information (written, multimedia, graphical, video, audio and web-based), rather than methods of communication (e.g. paper-based, screen-based SMS, e-mail). These are included in the second bullet list on page 14 of the Applied ICT 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 14 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 that 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

Most of the work seen was appropriate and accurately assessed but, as for G040, there was also some very lenient assessment. The majority of centres provided suitable assignments that 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, a few 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:	children's nursing courses in birmingham
this exact wording or phrase:	nursing courses in birmingham
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.

> "childrens nursing courses" birmingham **OR** "west midlands" –adult
>
> **Find web pages that have...**
> | | |
> |---|---|
> | all these words: | |
> | this exact wording or phrase: | childrens nursing courses |
> | one or more of these words: | birmingham OR west midlands OR |
> **But don't show pages that have...**
> | | |
> |---|---|
> | any of these unwanted words: | adult |

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

Google's advanced search now helpfully provides instructions on how to replicate the various options in the standard search box.

To do this in the search box

	Type the important words: `tricolor rat terrier`
	Put exact words in quotes: `"rat terrier"`
	Type OR between all the words you want: `miniature OR standard`
	Put a minus sign just before words you don't want: `-rodent, -"Jack Russell"`
	Put 2 periods between the numbers and add a unit of measure: `10..35 lb, $300..$500, 2010..2011`

Unfortunately, many candidates misunderstand these instructions and think that this is what they must enter in the fields of the advanced search, which is not correct. Candidates need to be taught the proper use of the advanced search facility and that this guidance can be used to help them write their own search strings, as required by mark band 3.

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.

> coventry sport centres - alan higgs   Advanced Search
>   Language Tools
> [Google Search]   [I'm Feeling Lucky]

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

> ogle   "sport centres" +coventry -"alan higgs"   [Search] Advan
>   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 29 of the course 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 that 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 that 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 on page 155 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 that 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 too replace the data found with dummy data, i.e. 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 that 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 bi 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 156 of the specification suggests other aspects that 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 that 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 that 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 them out the required tasks. The hardware specification should be complete – a processor without a motherboard or tower unit is not much use. It should be 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 that 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. Centres are reminded that these are plans and should not be evidenced via any practical work.

Most candidates provided suitable evidence of the practical tasks carried out in Task c 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. Centres are

reminded that the installation of internal hardware components is not required for this unit although making printers and other peripherals available for use through the correct installation of their drivers is a suitable configuration task.

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 of Task d, including evidence of testing. For mark band 3, more that 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 37 of the unit 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 are now including the correct content for this task however there are still some who are including the system lifecycle as a preamble – this is not required and just add to the bulk of the evidence. A number of centres this session seemed to ask candidates to include notes within this task about different types of programming language. This evidence is also not relevant for this task. Centres should refer to the 'Basics of software development' section on page 37 of the unit 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 better 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 methods used to produce and present the specification, rather than how well it met the user needs. This may have been because these needs had not been defined sufficiently clearly in Task a. A second evaluation could be produced immediately after completing the practical tasks and consider how the candidate went about them, any problems that arose, how these were overcome and, for mark band 3, how they might approach a similar task in the future. Care is needed that comments made are actually evaluative, rather than just a description.

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 it that they apply the knowledge gained from the text book and research to the scenario provided, rather than simply providing theoretical responses.

For Task b, there is no requirement to actually produce the database for the given solution only a proposal. The solution proposed must cover both hardware and software issues to solve the identified problem, and meet the needs and requirements of the organisation.

In Task c, candidates need to consider the information that is input into their solution and the information that is output as well as the explanation of its use at each level ie operational, tactical or strategic.

The examples of different types of software given in Task d must relate to the organisation for which the solution is being developed as well as the level at which it would be used.

The quality assurance procedures identified and explained by the candidates in Task e must be appropriate and relevant to their proposed solution.

When evaluating their proposed solution to the problem in Task g, candidates must refer back to the needs and requirements of the organisation, and the aims, goals and objectives.

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.

To achieve mark band 3 for Tasks a, b and c, candidates need to research the tools and techniques available so that they can describe a wide range, possibly going beyond those listed in the unit specification. Although there is overlap between the stages, candidates were often confused as to which tools are used for analysis, which are used for design and which are used for investigation. It may help to consider the 'Structured analysis' section of the unit specification, as far as the first bullet list on page 44, 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 44. 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.

The report for Task d should include both feasibility and design. The feasibility report is assessed in Task di and the designs in Task dii. The alternative solutions considered in the feasibility report should relate to software rather than hardware, although some consideration of hardware should be included. While there is certainly more consideration of feasibility than previously, too frequently this is restricted to the chosen solution only. Each possible solution should have its feasibility explored so that the best solution (most feasible) can be determined. Good practice would see candidates look at the technical, economic, legal, operational and social aspects of each solution – a cost benefit analysis study could also be produced – this would provide conclusive evidence of which proposed solution is the best. 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 dii. 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 dii. 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.

In Task e, most candidates attempted to produce data flow diagrams (DFD) 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.

Too many candidates struggle with Task f and include incorrect diagrams. Frequent errors included relationships which end up being in a circle, one to many relations that are the wrong way round, and one to many relationships that are actually many to many relationships. Data dictionaries often represented the models produced but sometimes included inappropriate field sizes or omitted foreign keys. However, some good ERDs were seen with appropriate documentation.

Task g 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. Care is needed that they actually evaluate, rather than simply describe.

G046 – Communicating using computers

Although the work submitted for this unit was generally appropriate, there was some lenient assessment.

Suitable organisations had been investigated for Task a, although candidates did better when they investigated a real organisation, such as their school/college, rather than using case study material, although not if their centre does not have an intranet. 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. It should 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 52 of the specification to identify what is meant by internet technologies for Tasks bi and di. Discussion of HTML is not sufficient. Mark band 2 of Task bi 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 were, however, some good descriptions of purpose and services. In Task bii, 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 bi, 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 calculation of bandwidth this session.

Task di 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 dii requires candidates to evaluate how they 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. The description of hardware and software required for internet use is often good, although information is almost always missing. User names, password, addresses of mail and proxy servers are all required. 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 that 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 good standard and mostly accurately assessed.

In Task a, centres need to ensure that the program listing provided includes sufficient techniques for candidates to identify. Where candidates are given longer programs with a wide variety of programming constructs and techniques, annotation can be more detailed. Some simple programs end up providing limited evidence which does not meet the requirements. The best way to tackle this task is for candidates to type the program listing themselves into a text editor or development environment, annotate the program using the comment facilities and compile it. Often, comments about the tools used to ensure that the programs are readable and maintainable, as required for higher mark, were omitted – if the candidates have entered the code listing on their own, they can ensure that these aspects are in place and identify them. Centres need to differentiate between the two parts of the task. Task ai requires candidates to identify the techniques, eg they should indicate where different constructs, such as selection or repetition, have been used, while Task aii 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.

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 bi, for the award of mark band 3, all of the techniques listed in the 'Program structure' section on page 54 of the unit 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 bii, the purpose of the programming language used was often not addressed and there was limited description of local and global variables. For Task biii, 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. Care is needed to ensure that the evidence for this task is authentic, as it is very easy to include material from the internet and other sources. Apart from discussing the appropriateness of the languages used and analysing their experiences, for mark band 2 in Task cii, 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 often evaluate their own programs successfully and are able to suggest suitable improvements but they are not so successful with the program given to them. As part of Tasks a and b candidates need to comment on the tools used to make the code readable and maintainable this could form some good analysis within the evaluation. Candidates are also expected to comment on the suitability of the languages chosen – this again could form some good written analysis within the evaluation.

G041 How organisations use ICT

General Comments

Performance in this examination series was disappointing, with very few candidates scoring more than two thirds of the available marks. While most scored well in Task 2 and Questions 1 – 5 of Section A, Task 3, Questions 6 and 7 of Section A and most of Section B were poorly answered. The poor performance in Task 3 and the Section A questions was mainly because answers were not applied to the organisation in the case study, although there was some lack of understanding of the organisation's requirements and of the terminology used in the question in relation to the specification. Poor answers in Section B demonstrated a lack of knowledge and understanding of the topics within the Unit Content section of the specification.

Centres are encouraged to use the Unit Content 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. In particular, where a question asks for a specific number of answers, only the required number of responses will be marked. Numbered lines will usually be provided for such answers and candidates should be taught to only provide one response within each numbered answer space.

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, but not all, 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 was 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 into 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.

Virtually all reports for Task 3 were word-processed as required. Centres are reminded that hand-written reports for this task will not gain marks. However, 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. 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. For example, legislation is not part of the Task 1 requirements in this series. 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.

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 by most candidates, 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 sometimes imprecise. 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 'order – internal mail', 'installation date – telephone' 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 to which flow a label refers. Candidates may find it easier to label the flows by hand, rather than manipulating text boxes. However, the points made above about hand-drawn diagrams need to be considered and candidates need to ensure that the labels are legible.

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.

Candidates must ensure that their diagram only includes what is required in the task. The task stated that the process starts when the order and deposit are received in head office and ends when the invoice is produced. Candidates did not, therefore, need to include the customer as an entity in the diagram, nor did they need to include information flows related to the order and deposit being posted or the invoice being posted to the customer. Such additions were not

penalised but, where candidates included the whole process from arranging the appointment to the blinds being fitted and paid for, this was deemed too vague for credit.

Task 3
Candidates must ensure that they actually address the task set. The task required candidates to explain the implications of complying with the Health and Safety at Work Act (1974) and subsequent Health and Safety Regulations **in relation to ICT**. Many candidates discussed the requirements of the Health and Safety at Work Act in general terms, rather than specifically in relation to ICT. Others focussed on health and safety issues relating to ICT use, such as RSI and eyestrain, rather than the implications of complying with legislation. As well as considering other implications, candidates needed to evaluate the effect this may have on staff using ICT **in the head office**. This was often not well addressed or limited to positive impacts. Where candidates are asked to evaluate, they need to include both benefits and limitations. For high marks, the evaluation needs to be balanced and thoroughly applied to the case study.

Candidates need to ensure that they use specific examples from the case study to explain the points they make. Simply listing the staff that would be affected at the beginning of the report does not meet the requirement to apply their explanations to the case study.

Centres should advise candidates that the quality of their written communication is important and assessed in this task. Candidates must **correctly** proof read their work to prevent spelling errors and ensure that the grammar and punctuation is appropriate and that the content is clearly expressed.

Candidates who provided an evaluation of their performance gained most, if not all, the marks available for this section. 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'. They must clearly indicate the method they used.

Question 1
Candidates must give the function 'accounts' or 'human resources' rather than the job title of the person carrying out the function 'accounts clerk' or 'HR assistant'. However, candidates who wrote the latter were able to access the remainder of the marks.

Candidates must also be able to clearly identify specific tasks completed by the job function identified, rather than giving an overview of the role. For example, for HR, answers should have included specific tasks such as 'advertising vacancies', rather than the overview 'carry out a range of activities relating to staff recruitment, welfare and training.

Question 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 Sales and Marketing Director's role given on the second 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.

Question 3
Most candidates were able to gain at least one mark for this question, with many scoring both available marks. As there were two forms of interaction – post and fax – it was important that candidates indicated when each was used to gain the marks. For example, they needed to state that orders are posted monthly.

Question 4
In a(i), most candidates recognised that there were barcodes attached to each item and that these were scanned to gain two marks. To gain the third mark, they needed to go on to state that the product code is used to look up the record for the item in the stock database. Those

familiar with the case study were able to do so. Most candidates gained both marks in a(ii) but length in metres was sometimes incorrectly substituted for quantity and weaker candidates repeated the input from the first part of the question.

In b(i), to keep the stock level of material up-to-date requires both the calculation to update the level when new stock arrives and the calculation to update it when stock is used. The first of these calculations was often missed and only the two alternative answers for removing material from stock were given. As a specific calculation was being described, precision was required in the answers to gain marks. For example, quantity-in-stock field and length in metres were both required to be given in full. Candidates must read the question. This referred specifically to rolls of material, so answers relating to 'other items' would not gain marks.

The question in b(ii) required candidates to describe the output method. Candidates will not then gain marks for describing the output.

Question 5
Candidates are unlikely to gain marks in this question for providing answers from the January mark scheme. Where candidates had identified the correct system, most gained marks for hardware, software and input data, with only more able candidates gaining marks for processing and output. However, some failed to gain the input data marks because they described the whole process of the administration assistant accessing the showroom diary etc, with the actual input data only mentioned at the end. As each part of the question requires **one** example to be explained, some marks were lost because the correct answer followed an answer that was incorrect, with only the first answer being marked.

Question 6
Candidates need to ensure that they are thoroughly familiar with the case study and the specific weaknesses of the system described. In this case, the warehouse was completely isolated in terms of electronic communication, having only a stand-alone computer and no internet access. The obvious responses to part a were, therefore, to either link all the sites in a WAN using leased lines or to provide broadband access in the warehouse. An intranet was not an appropriate answer, as without the communication links suggested above, the warehouse would still be isolated. While some candidates had suggested a WAN, they had not applied this to Progress Blinds or had not gone on to explain how it would improve communications.

Answers in part b were often too generic to provide more than very limited credit. Answers to this type of question in Section A must be clearly applied to the case study.

Question 7
The Unit Content section of the specification has a section headed The impact of ICT on working practices. This includes location and pattern of work, work skills, re-training, while effects on employees includes social aspects, the balance of responsibilities and the amount and timing of leisure time. This question required candidates to apply these aspects to specific situations within Progress Blinds and the impacts on specific employees. Candidates either misunderstood the term working practices or gave generic answers referring to staff or employees.

Question 8
The Electronic Communications Act (2000) is listed in the Unit Content section of the specification, so candidates should be taught its purpose, how organisations are affected by it and what, if anything, they need to do to comply with the legislation. All of the question parts relate to the purpose of this Act. Few candidates were able to give the other aim, which is to facilitate electronic data storage. Some did recognise that e-commerce is the type of business activity that benefits most from the Act. Where marks were awarded for part c, it was usually for indicating that it allows digital signatures to be as legally binding as those on paper.

Question 9
Part a of this question required types of information, such as information about the holiday, financial information etc. Candidates tended to give specific items of information, such as holiday dates or destination, thus limiting themselves to one mark for each answer. Personal information was the example given in the stem, so items of personal information, such as date of birth, were not acceptable.

Part b was often misunderstood. The required answers were possible methods of acquiring the information from the customer, rather than from other sources such as online databases. Some candidates were able to state possible methods but not expand on their answers to give a description.

Question 10
Many candidates answered the question in terms of the increased use of ICT, rather than the **pace** of ICT developments. It was expected that issues discussed might include the cost of keeping equipment/software up-to-date, the need for frequent re-training of staff, the difficulties faced by those who take a career break, for whatever reason, and the stress on those who struggle to keep up with the changes. Cost and training were often mentioned, although the frequency of the latter was not always explicit. Better candidates considered issues of compatibility when hardware or software is updated and the fact that some employees may struggle to keep pace with the changes. However, most limited their mark to the middle mark band by including irrelevant material, demonstrating a lack of understanding of the question, or not providing sufficient detail in their explanations.

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 brief from the list published by OCR. It should be stressed that these tasks can 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.

Comments on individual tasks

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 assessment 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 use one formal planning technique, rather than two, which does limit them to mark band 2. .

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 that 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.

H515/715 GCE Applied ICT (A2 units)

Introduction

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

Many 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 the moderator and the board, as well as the requirements to send the sample of coursework requested within the timeframe specified in the correspondence. The majority of centres this session met the deadlines.

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 the need for amendments to marks submitted. This slows down the moderation process and centres risk delays to the issue of results while these issues are resolved.

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 previous Principal Moderator reports 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 problems 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 but 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 60 of the unit 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. A small proportion of centres incorrectly credited 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

The vast majority of 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 67 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. It is not necessary that the products evaluated are based on the same topic area as the product to be developed; the purpose of the evaluation is to consider layout and interaction, for example, and how these could be used, or not, in the candidate's product.

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. 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 67 of the unit 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 candidates. 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 publishable 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. 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 the 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 includes samples of artwork produced to cover the range listed on the assessment grid. 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 GCE Applied ICT 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 the skills listed on page 74 of the unit 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 requires 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, 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 requires 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 are required to identify domain names suitable for the website 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 requires structure diagrams, a story board, 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 cii, to secure mark band 3, a full explanation is required of 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 are required to edit script commands. Evidence to support this could include before and after screenshots of the implications of the changes as well AS 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 but 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 a few instances of high quality work with candidates and centres appearing to be 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 require evidence of data validation and should be fully labelled in order to access mark band 2; this was evidenced by some candidates. The forms 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 are 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 the 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 needs 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 needs 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 each 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 requires 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 requires 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.

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 Mobile Car Wash, 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.

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 causes difficulty for the examiner. 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 paper.

Comments on Individual Questions

Task 2
The task required candidates to produce a L1 data flow diagram (DFD) with the start point being given as when the valeters create their daily order and ends when the stock is stored in the warehouse. Most candidates managed to start and end the DFD at the appropriate points.

The standard of the DFDs submitted in response to this task was, generally, pleasing. Candidates were able to clearly identify the external entities in the system as being the valeter(s), warehouse and the suppliers. To access marks allocated for the processes the

links between them and the associated data stores / external entities had to be correct. It is important that the direction of all flow lines is indicated.

It is appreciated that there are many different sets of symbols that can be used to develop DFDs. Which set is used is irrelevant as long as the set of symbols is used consistently.

The evaluations (AO4) of the methods used to produce the DFDs were pleasing with most giving a strength and weakness in the method(s) used.

Task 3
This task required candidates to produce Structured English showing how costs are calculated based on the number of cars at each location.

Some candidates provided extra conditions / outcomes in the evidence for this task. Centres are advised to ensure that candidates only include the requirements of the task in their evidence. Many candidates were able to provide, and access marks for, the correct condition and outcomes.

Task 4
Candidates were required to design a user interface to enable the administration staff to book customer appointments.

The emphasis of this task was on the design of the form template and not the implementation of the design.

Many candidates produced the evidence for this task using some type of software package. This was accepted unless the form template showed any sort of population of fields. If this was present then no marks were awarded for this task.

Section A

Question 1
Most candidates were able to access the marks available for providing examples from the case study. The explanations relating to why it is important that the purpose of a new system is clearly defined were generally weak.

Question 2
The focus of this question was on the functional requirements that have been defined by The Mobile Car Wash.

Part (a) focused on the functional requirement that had been defined by the warehouse manager. Most candidates accessed all marks for this part of the question.

Part (b) focused on the non-functional requirements which had been defined by the administration staff. Most candidates were able to access all marks allocated to this part of the question.

Question 3
The focus of part (a) of this question was on the defined hardware process constraint. Most candidates were able to provide a description of this constraint, accessing all allocated marks.

Part (b) of this question then required candidates to identify and describe a further constraint that had been defined by The Mobile Car Wash. Despite the question stating that time and budget should be excluded in the answer given, some candidates provided answers relating to these categories of process constraint. Those candidates who did define software as the process constraint generally accessed all marks available.

Question 4
Candidates were required to describe three problems relating to the ordering of stock by the valeters. Many candidates were able to describe the problems faced which included the quantity of stock required / name of valeter may be incorrectly recorded.

Question 5
Candidates were required to identify the most appropriate type of software, and justify their choice, to hold customer details. A worrying number of candidates identified the type of software as a spreadsheet.

Candidates were only able to access the marks for the justification if the type of software was correct.

Question 6
The focus of this question was on the advantage(s) and disadvantage(s) of recommending off-the-shelf software for The Mobile Car Wash.

Most candidates were able to clearly describe at least one advantage and one disadvantage of using off-the-shelf software to create the new system.

Question 7
Candidates were required to identify and describe the maintenance strategy which would be used to correct errors found following implementation. Candidates were only able to access the marks for the description if the strategy identified was correct.

Many candidates were able to correctly identify the corrective maintenance method but were unable to provide a clear description.

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

Candidates were required to explain how The Mobile Car Wash can comply with the Data Protection Act. The question asked candidates to relate their answers to The Mobile Car Wash by providing examples.

There seemed to be a general understanding about the principles of the Data Protection Act. There was some attempt to link answers to the case study. Few however provided responses clearly linked to The Mobile Car Wash, in enough depth to score the highest mark band.

Good responses often talked about, for example, the need for The Mobile Car Wash to check with customers that the data held about them is correct and to then correct any inaccuracies identified in the data.

A minority of candidates failed to use examples relating to The Mobile Car Wash. This strategy limited candidates to the lowest mark band.

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.

Question 9
This question focused on the components of the output specification that is developed during the design stage of the systems life cycle.

Many candidates accessed the marks allocated to this question. A list of the component parts of the different types of specifications is given in the unit specification.

Question 10
Part (i) of this question required candidates to explain the term verification with part (ii) requiring them to identify one method of validation.

The responses to this question were centre dependant.

Question 11
Candidates were required to draw a flowchart to show the processing of an order. The steps taken in the processing were given.

Many candidates were able to access some marks for this question. However, the most common errors were failing to have 2 flows from a decision box and identifying the start / end of the process.

Question 12
This question assessed the candidates' quality of written communication and focused on the use of formal methods of modelling data flows within a system.

Those candidates who did provide responses relating to the use of formal modelling methods were unable to provide a discussion of its use including the advantages and disadvantages. This limited the accessibility of marks to the low mark band.

To reach the higher mark bands candidates should consider both advantages and disadvantages.

G055 Networking solutions

Tasks

Tasks were often poorly labelled but were generally presented in a logical order. Most centres used the building diagrams, as instructed, and this made the marking of the task easier.

Task 2

This task consisted of two sub-tasks:

Physical network diagram

This part was answered well. Most diagrams showed a correct number of devices and were clearly labelled. Computers and printers were placed in relevant positions within the building layout. Candidates often clearly showed the position of cabling such that it was obvious that there was a connection between devices in the network. Some candidates showed wireless hubs as connection devices with nothing to connect to. They need to know that a wireless device needs to be able to talk to another wireless device, other than computers and printers in order, for instance, to communicate with the main server or internet connection.

Justification of placement of components within the design

Candidates should be encouraged to think about why they place cables around walls, why a given number of computers might be placed within a specified area and, importantly, why networking equipment such as servers, switches, routers, etc might be placed in a dedicated equipment room. The most common answer was that this allowed the devices to be connected together, which was not sufficient. Candidates should also be encouraged to ensure that they have understood the requirements of the task before answering. A good number justified the inclusion of the components rather than their placement.

Evaluation of methods used

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

Task 3

Where candidates had an understanding of what a VLAN is, they were able to answer this question well. Candidates who gained marks in the highest band did so because they showed a solid understanding of the term and were able to relate the use of a VLAN to the case study. Many answers showed a good understanding of the need to keep parts of the network separate from each other but gave no clear explanation of how a VLAN would allow them to do this.

Section A

1   Candidates lost marks for not addressing the communication aspect of this question and/or describing communication within a LAN rather than over the internet. Few candidates related the answer to the case study.

2   Full marks were only available to those candidates who were able to relate their answer to the roles of the proxy and file servers within the Orca Graphic Designs network.

3   This question was generally quite well answered. However, in part b) candidates often cited one non-working computer not affecting the whole network, rather than one connecting non-working device within the tree not affecting the whole network. Candidates often did not understand the implications of the tree topology; their answers could relate to almost all topologies.

4   The key to this question was reliability and a cabling option was expected. The majority of candidates were able to describe a feature of their chosen cable type and some could explain its suitability. Candidates should be encouraged to practise exam techniques in terms of understanding the key command words and linkages between question parts.

5   Web browser was the most common answer to this question, and was incorrect. Where a candidate had given this as their identified software, they gained marks only if they indicated that it was part of the testing process after a site had been updated and before uploading.

6   Candidates lost marks where they focused on the implementation (eg testing/installation) rather than the design of workstations. They also lost marks where they described the measure to be taken without relating this to what was being taken into consideration (eg risk).

7   This question was about data loss and candidates were expected to describe back-up systems and their place within the OGD network. Answers were often general, focusing on data protection and malware.

8   Many candidates described the security measures that might be put in place for a network with access to the internet rather than focusing on the use of VPNs and access from outside. It was not clear in most cases that the candidate understood what a VPN was or how it might be used.

Section B

This section was poorly answered by the majority of candidates.

9   Less than 25% of candidate were able to identify fields such as source/destination IP addresses, which should be well known to candidates studying a networking unit.

10   Very few candidates (less than 15%) were able to describe the purpose of subnet masks and less still were able to identify something that looked like a subnet mask, even if not correct.

11   Candidates lost marks for this question where they describe HTML or HTTPS rather than HTTP.

12   This question was poorly answered, although better than the previous Section B questions. Answers could relate to any type of packet header for a transport layer protocol (eg TCP/UDP). Answers indicated a lack of technical knowledge in this area.

13   Candidates too often referred to problem logs as something that is used by users to refer to problems. Most marks were lost where candidates failed to describe how problem logs are stored and organised (eg grouping by problem type) to enable them to be used effectively.

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