



Cambridge Nationals

ICT

Level 1/2 Cambridge National Award in ICT **J800**

Level 1/2 Cambridge National Certificate in ICT **J810**

Level 1/2 Cambridge National Diploma in ICT **J820**

OCR Report to Centres June 2014

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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External examination (R001)

General Comments:

Candidates taking the exam in this session seemed better suited to the level of the paper, with marks being achieved from across the paper and also across all grade boundaries. The responses to the more in-depth questions (Q3, 6a and 7c) suggest that Centres are now aware of how these questions should be answered and are working with candidates to ensure that they are able to provide clearly structured answers which, on occasion, achieve full marks. Such questions will continue to be a feature of this paper and will continue to require the best candidates to give answers which provide well organised and balanced responses.

Centres have clearly also put a lot of work into ensuring that candidates answer questions in context. Indeed, the extent to which candidates answered in context was a marked improvement on previous sessions. This has led to an overall improvement of the performance of the cohort.

Finally, a further feature of candidates' performance for which Centres should be praised is the extent to which candidates worked with command words. Candidates gave short, often one word, answers to questions where they were asked to identify or state, and gave extended answers where they were asked to describe. To continue with this theme, many candidates were also well able to give clear explanations when required. These core skills are central to candidates' ability to do well in this examination.

However, amongst all this praise, there has to be something requiring attention. As detailed below, some candidates are still not reading questions and are giving answers which I am sure they think are superb, but because they are missing the focus of the question, are not achieving marks. As well as the general context of the paper, the questions themselves can give further context of which account needs to be taken when answering questions. This context therefore moves the question away from a general application of ICT to one in which some possible, general answers, may actually be incorrect within the context of the question itself.

Comments on Individual Questions:**Question 1**

This question was about the use to which technicians may put their smartphones and assessed candidates via their ability to apply the specific context of the smartphone to their answers. Therefore, general answers about input and output devices were not always acceptable. For example, a headphone is not an output device found on a smartphone, and we did not accept monitor as we considered this to not be applicable to a smartphone.

Part C of this question then asked candidates to describe ways in which using smartphones could help technicians. Whilst most candidates were able to identify the way in which the benefit may accrue, and thereby get one mark, few gave sufficiently clear answers to warrant the expansion marks. For example, candidates sometimes gave answers stating that the technician would use the "internet to find out things". Whilst this was worth one mark, the expansion of how the internet was to be used is clearly not in sufficient depth.

Question 2

The second question dealt with sending information to smartphones. A few candidates misinterpreted this question and gave benefits of having the information on the smartphone, rather than having it sent to the smartphone. For question 2a, some candidates gave answers that basically said "a lot quicker if turned on". There is a clear section in the syllabus which is to do with factors affecting the rate of data transfer and it is to this section that this question referred. Many candidates were able to identify two good factors. For 2b, acceptable benefits included those to the technician, as well as the Office Controller.

Question 3

This question was the first of three that required extended answers from candidates. Candidates were asked to explain the impact of the use of ICT by Cable Ties on the overall efficiency of the organisation. Some candidates chose to interpret this question as one focussed on ecology and, in the main, gave answers which were largely lacking in suitable points. The vast majority of candidates were able to describe the impact of ICT on efficiency and thereby achieve marks from Mb2.

Question 4

This was a technical question that required candidates to be aware of the potential impact of Apps on the efficiency of smartphones. In some cases, answers given were very vague indeed and, for example, attempted to describe problems caused by downloading apps in very general terms, such as "mess up". In a paper that assesses a candidate's understanding of ICT, it was felt that candidates needed to use more technical terms and so such vague answers were generally not awarded highly.

Question 5

Tested candidates' understanding of how data may be misused and protected. In answer to the first part of the question, candidates were required to identify three items of personal data that a technician working for Cable Ties could sell. Whilst many candidates gave three good answers, it was felt that answers which relied on the answer "details" were too vague - "contact details", for example, was too vague, as was "email details". Similarly, for question 5b candidates needed to be clear in their description of why Cable Ties encrypts data. Answers which stated that this was done so that "no one could access the data", were incorrect - clearly, Cable Ties staff need to be able to access the data. Virtually all candidates gave good answers for question 5aii.

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Section B developed the scenario from that established in Section A. The specific focus was the work of a technician, Marcus.

Question 6a

Proved to be something of a challenge to some candidates. The question required candidates to describe features of spreadsheet software. In many cases, candidates described spreadsheets themselves, with a small minority taking that description to its logical extreme. Where candidates correctly identified the question as being about features and how they can be used for a specific focus, there were good answers, with most of this group achieving MB3. However, where candidates failed to appreciate the context or the requirement for a description, marks suffered accordingly.

Question 7

Focussed on feedback, with 7a being an in-depth comparison of online and paper based surveys. The answers to this question showed a really good level of preparation, with many candidates given balanced descriptions of positive and negative impacts. 7b was another technical question which required candidates to understand the use of a reference number in the context of a feedback form. In this case, few candidates appreciated that the reference linked the feedback with the technician or job, and many stated that the link was between the customer and the job.

Question 8

Proved to be quite challenging, with many candidates failing to appreciate that as soon as they referred to a legal impact of the action, they were effectively negating anything they said.

Parts a and b of question 9 were equally challenging to some candidates, who seemed to be confused between back up and archiving. As a result, answers to part a were generally wrong, whilst for part b, candidates gave general answers that were applicable to any form of data storage, rather than archiving.

For part c(i) and c(ii), the mark scheme accepted virtually any form of storage. However, whilst the mark scheme was wide, it must be stressed that this is an up-to-date qualification and answers that refer to devices and techniques that are no longer in general use are unlikely to be accepted in future.

Moderated units (R002 – R011)

General Comments:

Entries were received for all units from R002 to R011, with the majority of entries being for the mandatory unit, R002 and the most popular optional units being R005 and R007. This is the second year for which entries have been possible for this qualification and many Centres were entering candidates for the first time; so many issues identified in previous sessions also emerged during this session. For completeness, comments regarding these issues have been restated below, along with other comments that relate purely to this June session.

Many Centres appeared unfamiliar with many of the required procedures for this qualification. It is essential that teachers familiarise themselves with the entire contents of the specification document and not merely with assignments and marking criteria. Attention is particularly drawn to the following:

- Section 2: Unit content – guidance on what should be taught for each unit
- Section 4.2: Requirement relating to the use of OCR Model Assignments
- Section 4.3: Conditions under which assessment must take place
- Section 4.4: Assessment and annotation by the teacher
- Section 4.5: Authentication and internal standardisation
- Section 4.6: Procedures for moderation, including presentation of work
- Appendix A: Guidance on witness statements
- Appendix C: Guidance for the production of electronic internal assessment
- Appendix D: Glossary of terms used within the marking criteria.

Problems were encountered in the moderation of a significant proportion of Centres, many of which led to delays in the process and/or the moderator being unable to agree Centre marks. In some cases Centres had not carried out the assessment under the required conditions. The most common problems were:

- Delays in submitting marks and/or samples of work
- Errors in uploading candidate work to the repository
- Lack of clarity from the Centre to show reasons for assessment decisions and the location of evidence to support these
- Inadequate and/or unreadable evidence to support Centre decisions
- Failure to use the OCR Model Assignments
- Over-direction by Centres, where additional materials were provided to candidates, over and above the OCR Model Assignments. Examples included more detailed instructions, breaking down the assignment tasks; writing frames to complete, sets of headings to use and/or examples to follow.
- Plagiarism from the internet
- A 'tick box' approach to assessment, which took insufficient account of qualitative criteria

Submission of sample to moderator

Whilst most Centres submitted their marks to OCR by the required deadline, many did not send to the moderator their copies of the mark sheets and Centre Authentication Form (CCS160) at the same time. This process is outlined on page 37 of the 2013-14 Admin Guide for 14-19 qualifications. Centres are requested not to wait until the sample is requested before sending this information to the moderator, either by post or by uploading into the administration area of the OCR Repository. Some Centres submitted their marks late and this created problems which could result in delays in the issues of results.

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Problems were caused this session because some Centres' samples arrived late. Once the marks have been submitted to OCR a request for a sample of work is sent by email. For postal and repository options the requested work must be sent/uploaded within 3 days of receipt of this email. Where Centres have chosen moderation by visit, the moderator will contact the Centre to arrange a date but the visit could occur at any time during the moderation period, so Centres need to ensure their requested sample can be made available within a similar time frame if necessary. Some Centres were disappointed that they could not specify a particular date for the visit, but within the short moderation window this is not possible. Since all portfolios should be held securely by the centre after marking there should be no problem in providing work for the moderator by the required date.

Use of the OCR repository

Some Centres encountered problems submitting work via the OCR Repository, resulting in the wrong work being shown to the moderator by the system. OCR provides a User Guide for this facility and it is essential that the guidelines contained within are followed carefully, particularly with regard to file names, which must begin with the candidate number. This is so the system can map the file to the correct candidate. The user guide can be downloaded from <http://www.ocr.org.uk/ocr-for/teachers/ocr-repository/>. Some Centres did not upload the entire sample identified on the email, which caused some delays; Centres are advised to check against the email request to ensure the entire sample has been uploaded.

Presentation of portfolios

Most Centres provided a copy of the OCR Unit Recording Sheet (URS) with each candidate, as required. However, these sheets were not always fully completed with Centre number/name, candidate number/name and comments to identify the location of evidence and give reasons for assessment decisions made. Centres are requested to follow the guidance in section 4.3.1 of the specification document, which clearly lists the information that should be included on the cover sheet for each portfolio. For repository entries these sheets should be uploaded with each candidate's work and not in the 'admin' area, which is for non-candidate-specific files such as mark sheets and Centre Authentication Forms. Similarly, if submitting 100% electronic evidence for postal moderation the URS should be inside each individual candidate's folder, which should be clearly labelled with both candidate name and number.

Some Centres submitting work electronically by post also included printed copies of the URS for each candidate in the sample. This was much appreciated by the moderators.

Some Centres wrote comments in the 'teacher comment' column of the URS but merely stated that the assessment criteria had been achieved. These comments were not helpful to the moderator. It would be more helpful to explain why it was felt that the assessment criteria had been achieved identifying particular evidence to support the claim.

Where Centres secured paper portfolios by treasury tags, according to the guidance in section 4.3 of the specification, this was helpful. Loose sheets, whether or not they are presented in envelope folders, ring binders, plastic wallets or presentation files that do not allow pages to be opened out fully can cause problems to the moderator.

Evidence

Where clear evidence was provided for all criteria credited by the Centre, moderation generally endorsed the mark awarded. This evidence, for visiting and postal moderation, can be in a variety of formats and Centres are recommended to consider making electronic evidence available, particularly where candidates are creating products such as spreadsheets, databases, multimedia products/ games etc. Many Centres provided these files on CD/DVD or memory stick and this was invariably helpful. It is important to check that these files are the most recent

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version, ie, the version that has been marked by the Centre, as problems were sometimes encountered when the electronic files did not match the paper-based evidence, also that they will open on a system that is not connected to the Centre network.

Where Centres provided guidance to the moderator to help find the item(s) of evidence that had been taken into consideration for each Learning Outcome (LO) this was invaluable. For paper-based portfolios this was generally page numbers, for which space is provided on the Unit Recording Sheets. Where some evidence was electronic then Centres often provided file names and, where there were many files, information to the moderator about which files to open in which order for each LO. The best organised electronic submissions combined all documentation into a single pdf file, provided a hyperlinked index file and/or used filenames which clearly showed the order in which files were to be opened (for example, by prefixing each file name with '01', '02', '03 etc).

Some Centres submitting electronic files copied entire candidate work areas to disk/repository and in some cases moderators had to return work to Centres so that required files could be identified and separated from those which had no relevance to the assessment. It is essential that candidates actually hand in a portfolio of work for marking, whether this is paper-based, electronic or a mixture of the two, so that they are identifying what they are submitting for assessment. It is not appropriate for Centre staff to make this decision for the candidates, as this may disadvantage them by omitting some files that are important and submitting others that may have been superseded. Centre staff should then assess the portfolio submitted by the candidate and store the evidence securely until the external moderation sample is requested. Only by following this procedure can it be guaranteed that the moderator sees the same evidence as that assessed by the Centre. In some cases Centre comments suggested that internal marks had been awarded on the strength of evidence other than that sent to the moderator. It is essential that whatever evidence has been used in the Centre can also be viewed by the moderator. In some cases where Centre marks could not be supported it appeared that assessment had taken place mainly or wholly through observation during lessons. This is not appropriate or reliable – Centres must assess on the basis of evidence contained within completed portfolios that have been submitted by candidates.

In some cases moderators were unable to confirm Centre marks because no evidence was provided to back up claims for one or more criteria. Marks should only be awarded where there is clear evidence that the marking criteria have been achieved. Candidates should be provided with the marking criteria in addition to the Model Assignment, so that they can ensure they provide evidence for all criteria – it is not the purpose of a Model Assignment to detail exactly what evidence needs to be produced, although general guidance, which can be given to candidates, is provided at the end of the R002 assignment and in Appendix B of the specification document for R003-R011. Teachers may discuss/clarify evidence required with their candidates but must not provide any additional instructions, checklists or writing frames for them to use.

Some Centres chose to supplement printed/electronic evidence with witness statements. Where these detailed exactly what had been witnessed rather than simply affirming that particular marking criteria had been met these complied with requirements and were helpful but in many cases they did little, if anything, more than state that the marking criteria had been achieved and as such could not be considered as evidence.

It is essential that all evidence can be clearly read by the moderator. In some cases screenshots were too small and/or printed in draft quality so that the essential details could not be read. Similarly, printouts of PowerPoint slides, spreadsheets and/or database reports which provided inadequate colour contrast and/or were too small for the text to be read caused problems for moderators. If evidence cannot be clearly read this may result in disagreement with Centre marks. If candidates submit work where evidence cannot be read then Centres are recommended to send additional electronic evidence for the required sample, to ensure candidates are not disadvantaged.

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Some candidates produced screenshot evidence detailing every stage in the completion of tasks. This is not required, so long as the evidence shows what has been achieved and (where the criteria require this) what tools have been used.

In some units, eg R002, R005, R006 and R007, there is an assessment of file types, file names and/or folder structure. These can be easily assessed if electronic copies of candidates' files are provided. However, if such files are provided in addition to printed portfolios it is essential that clear guidance is provided to moderators to show which criteria the electronic files are provided for and which, if any, files need to be opened by the moderator. In the absence of such guidance, many moderators wasted a lot of time opening up files which merely duplicated paper-based evidence. Although clear folder and file names are invaluable for assessment it is not appropriate or permissible for Centres to dictate to candidates the folder structure and/or filenames they should use for these units.

Where Centres choose postal or repository moderation it is important that files submitted meet the requirements given in Appendix C of the specification. Where Centres choose visiting moderation there is no restriction on file types, as the Centre provides the resources needed to view the files. Particular problems are encountered where Centres submit MS Publisher files and/or use non-standard fonts, as moderators do not all have access to this software and if they do, different versions and different font sets can prevent files being opened as intended by the candidates. Centres are advised that if candidates have produced work in DTP software, electronic evidence should be provided in pdf format, which is the preferred format for all documents that may have used non-standard fonts. Where candidates' filing structures and range of file types are assessed, eg in R002, the candidates' original files should be presented, with additional pdf files for viewing by the moderator. It should be noted that Microsoft Access has been added to the list of acceptable file types and although html files are not specifically mentioned in Appendix C they meet the general requirement of 'open file formats or proprietary formats for which a downloadable reader or player is available'. If Centres are unclear about the acceptability of any particular file format they can gain clarification by emailing general.qualifications@ocr.org.uk. Where the software version might affect the reliability of the evidence, most notably Microsoft Excel and Access, the Centre should clarify to the moderator the version used by candidates.

Assignments

Most work submitted for this session had been produced using the original OCR Model Assignments. These remain live for the life of the qualification although additional assignments have been produced for R002, R005, R006 and R007, providing more choice for Centres and their candidates. A few Centres submitted work from these more recent assignments. Most assignments were used unaltered but some had been modified to change the scenario to one which was felt would be more appropriate/interesting to candidates.

It is a requirement of this qualification that assessed work must be carried out by following one of the OCR Model Assignments, which can be downloaded from the OCR website. In the case of R002 it should be noted that the Little Theatre Company assignment is provided **for practice only** and may not be used for final assessment. Some contextualisation of the assignment briefs is permitted but the tasks cannot be changed. The nature of the tasks and data files severely limits the extent of any contextualisation that is possible for units R002, R003 and R004. Whilst more adaptations to the scenario/brief are possible for the remaining assignments, the tasks must remain unchanged and additional guidance may not be provided other than clarifications of what a task or marking criterion means or general guidance such as reminders about producing evidence. The more recent OCR Model Assignments for R005 onwards have been written with the intention of making contextualisation more straightforward for Centres. The extent of permitted modifications is detailed within the Tutor Notes of each Model Assignment. Where any contextualisation/ amendment has been made by a Centre to the OCR Model Assignment it is important that a copy of the assignment used by candidates is made available to the moderator.

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Many Centres choose to carry out practice assignments with their candidates, before they attempt the live assessment. This is acceptable but any practice assignment should be sufficiently different from the live assignment that it does not provide candidates with direct solutions to live assignment tasks. The Little Theatre Company assignment is specifically provided for practice in R002. Practice assignments for R002, R003 and R004 must not use the same data files as the live assignment and the structure of solutions for all units must be very different.

Authentication

Most Centres provided the Centre Authentication Statement (CCS160) for the moderator, which should be sent with the mark sheet (MS1 or equivalent). Some Centres also provided individual candidate statements. Centres are advised to follow the guidance in the OCR Admin Guide for 14-19 qualifications: Centres must obtain a signed authentication statement from each candidate before they sign the CCS160 form, then the individual candidate statements should be stored in the Centre with only the CCS160 forwarded to the moderator, with the marks, before the sample request is received.

It is essential that Centres follow the guidance provided in section 4.3 of the specification document when candidates complete assessed assignments. The JCQ Instructions for Conducting Coursework, a copy of which should have been forwarded by the Centre examinations officer to each subject leader, provides further clarification. In particular this clarifies what can be considered to be the candidates' own unaided work. Worksheets, writing frames, checklists, additional instructions and/or providing formative feedback whilst the coursework is being produced constitute help additional to that which is allowed by the qualification and any such help must be considered when awarding marks, and recorded on the unit recording sheet appropriately. The JCQ document also confirms that where documentation is word-processed it should contain the candidate's name in the header or footer. This was often not the case with work submitted this session.

If guidance and/or feedback over and above that which is permitted is given, in contradiction to the JCQ instructions, this must be documented and taken into account when assessing, so that candidates are not credited with achievement for which they have been given such support. Some confusion remains apparent between formative and summative assessment. Whilst formative assessment is integral to teaching and learning and requires regular feedback, summative assessment is designed to test what candidates have learned during this initial process and specific feedback to help candidates achieve higher marks may not be given. It is not expected that candidates will attempt any of the Model Assignment tasks until they have studied the unit content and formative assessment suggests that they are ready to undertake the final assessed assignment. Whilst some review of skills might be appropriate at times during assessment, such reviews must be of sufficiently general nature as not to guide candidates in any way about methods of tackling assessment tasks.

Learners should be provided with a copy of the marking criteria for the unit when completing the assignments and teachers may explain the marking criteria to them. Centre staff may give learners support and guidance that focuses on checking that learners understand what is expected of them and giving general feedback that enables them to take the initiative in making improvements, rather than detailing what amendments should be made.

In some areas of assessment, eg R002 LO4 and R007 LO1, some level of guidance/support is covered within the marking criteria. Best practice was found where Centres provided clear evidence, in the form of formal witness statements or clear, personalised statements on the Unit Recording Sheet, to support their decisions on this criterion.

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Where tasks require candidates to provide written descriptions, these must be their own work, demonstrating their own understanding. Centres must be vigilant to ensure candidates do not simply copy and paste from websites or other sources. Appendix 2 of the JCQ Instructions for the conduct of coursework contains clear information for candidates regarding the use of source material and the need for this to be acknowledged. It is recommended that a copy of this notice is given to all candidates as well as being clearly displayed in classrooms.

Assessment standards

Whilst many Centres' assessment was considered sufficiently accurate to confirm marks awarded, in some cases marks had to be adjusted because Centres were either too harsh or too lenient. Where the work fully meets a description for a mark band then the highest mark within that band can be awarded. However, if an aspect is missing or only partially met then this highest mark should not be awarded. When marking work, consideration must be given to the following, in addition to the marking criteria listed in the grid for the unit:

- the tasks within the Model Assignment, which represent client needs
- the subject content from the unit specification, which clarifies the range/depth of knowledge, understanding and skills which candidates should have acquired during the course
- the clarification of key words provided in the glossary in Appendix D of the specification document. Of particular note is the fact that the glossary defines the expectation for terms such as 'limited', 'some', 'most', 'sound', 'detailed' and 'thorough'.

Some Centres had devised their own tick sheets and/or algorithms to calculate marks for individual LOs from marks allocated to individual criteria. Such methods should not be used – assessors should view the work presented holistically and make a professional judgement about which set of statements are the best fit for the work presented.

Where Centre assessment was deemed inaccurate the most common problem was over-generosity at the higher end of the mark scale, particularly in mark band 3. In some cases a tick-box approach credited use of particular skills but failed to assess qualitative criteria such as fitness for purpose, complexity and creativity. Marks in the highest mark band generally represent work which stands out from the majority by its thoroughness (extremely attentive to accuracy and detail), creativity/efficiency/originality and the extent to which it accurately meets the requirements of the brief.

Support for Centres

OCR provides support material for teachers, which can be found on the OCR website. The most recent resources, including specific advice and examples of marking for each unit, can be found on the OCR CPD Hub, <https://www.cpdhub.ocr.org.uk>. It must be noted that the example material available from OCR is for teaching and assessment purposes only and must not be shared with candidates.

R002

The majority of work submitted was for the 'MStreamIT' assignment, with a few Centres submitting work for the more recent 'JB Clothing Emporium' assignment.

Candidates were often credited over-generously for filing structures that were adequate in the context of the assignment but which showed little understanding of how files need to be stored for easy retrieval in a business context, where there are likely to be many more files. It would be appropriate to remind candidates, throughout the assignment, of the scenario and of the role that they have been given within the business. Simple folder names with no relevance to the scenario, such as 'Task 1', 'Task 2' etc, do not meet the requirements of the highest mark band. To be considered as meeting the MB3 requirements there must be clear evidence of some file versions, also that candidates have met all of the requirements in Task 6 of the Model Assignment. Many candidates provided evidence of password-protecting files, presumably because this was required in the OCR practice assignment, but without evidence of backing up. These candidates had not met the requirement to take action against accidental loss.

In many cases insufficient evidence of candidates' filing systems was provided; sometimes only folders were shown but not their content, in others the content of a folder were shown but not the overall structure. Evidence for this criterion can be most easily presented electronically, but if this is done, a comment should be provided on the Unit Recording Sheet, to indicate which, if any, files actually need to be opened by the moderator and if so, for which LO/criterion.

Candidates are expected to generate the email evidence from the tasks in the assignment, which should elicit signatures, out-of-office replies etc that are relevant to the company in the scenario. The MStreamIT assignment asks candidates to create an email guide for staff whilst the JB Clothing Emporium asks them to explain the email tools and etiquette that help communicate with others in a business context. Marks were often awarded over-generously where generic descriptions only had been given or candidates gave examples in a school context, unrelated to the tasks in the assignment. To be considered 'thorough', as required in MB3, candidates would be expected to cover both every-day and more advanced tools, equivalent to the range listed in the specification content. Organisational tools that are unrelated to email are not relevant here, even if they are packaged within the same software as an email client. Many candidates produced lists of email etiquette rules, some of which were clearly based on web sources, with minor changes made to the wording. Simply changing a few words does not make a piece of work a candidate's own. To be credited with a thorough awareness of email etiquette this should be evident throughout all the evidence produced for this section.

Some candidates did not provide evidence of the criteria they had entered into search engines, which limited the marks available. Whilst writing frames may not be provided, Centres can remind candidates of the need to provide evidence of search criteria used. To be credited with the use of advanced search pages these must be used appropriately, requiring some thought on the part of the candidate about exactly what information they want to find – if they have only very vague ideas of what they want then they cannot demonstrate the appropriate use of advanced search criteria. The appropriateness of the information found should also be assessed. Many Centres appeared to have focused their teaching of advanced techniques on the use of Boolean operators, which are not listed in the specification and are of limited or no relevance when using many modern search engines. Centres are recommend to teach candidates not only to use advanced techniques but also to look at the results and check them against requirements – candidates frequently were incorrectly credited with using advanced search techniques when these had been used incorrectly and/or inappropriately and the results obtained did not meet the stated needs.

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The weakest area in LO1 was frequently the copyright requirement. Whilst some candidates noted whether or not items were copyrighted, with varying degrees of accuracy, few actually identified the copyright holder of any item of information found, despite the fact that this is what the task asks for and what the assessment criteria require. Some candidates appeared to have been credited for simply writing down the URL, which does not fully meet the requirements even of mark band 1. These problems appear to have been exacerbated by candidates using generic source tables, which did not include prompts for the information required, to record their findings. It is expected that candidates should be able to create tables in a word processor without the need to use such resources and they should be encouraged to refer to the assignment tasks throughout to ensure that what they produce actually meets the needs of the task.

Marks were frequently awarded over-generously in LO2 when candidates had met only a limited number of the user requirements in the assignment and/or where the results obtained were not accurate. Centres are advised to work through the tasks themselves, to enable them to check the accuracy of candidates' results, although if candidates do make errors then some time needs to be taken during assessment to 'follow through' from these errors, to ensure they are not over-penalised for a single error. The glossary in Appendix D of the specification document provides some guidance in interpreting the key words such as 'some', 'most' and 'all' in the assessment criteria. The extent to which candidates have accurately met the purposes described in the assignment tasks is the key differentiator in this LO and should be used to decide upon the mark band that is the best fit.

Choice of software for the data handling tasks is assessed within LO2. It was clear that in some cases guidance had been given by the Centre to tell candidates what software to use. If this is done then no credit can be given for this criterion.

Many candidates did not demonstrate a good understanding of modelling within their work in Task 3 (MStreamIT) or 6 (JB Clothing Emporium). The use of spreadsheets as a model, where data can be changed and predicted outcomes obtained, is an important point to be taught within the data handling section.

In some cases the evidence supplied for LO2 did not clearly show the results for all tasks and/or methods used. Where clear evidence of methods used was not provided, eg spreadsheet formulae, database query designs, methods of producing address labels and mail-merged letters, it was difficult to assess the effectiveness of candidates' manipulation of data. Some candidates were credited for completing all tasks and yet evidence for all of them could not be found. Tasks involving filtering and sorting were often missing and it may be that candidates had done them but not provided any evidence – the final electronic file is unlikely to show the results of this type of task.

It is not the intention that candidates should be over-penalised for the same errors/omissions. LO2 should be assessed using candidates' responses to data handling, whilst LO3 should be assessed using their responses to those tasks that involve communicating information; this is expected to be largely in the use of the software specified in this LO, but where candidates choose other software to create their advertising solutions then these should also be considered. Many Centres erroneously included consideration of data handling software and tools within their assessment of LO3.

Most candidates chose to create flyers or posters for their advertising solution for MStreamIT but where candidates chose a more creative option this not only increased the range of file types produced but often resulted in products of a much higher quality, more appropriate for the specified purpose. It was disappointing to note that in most Centres all candidates had used the same medium for this task, suggesting some direction from the Centre. In many cases candidates had produced a page of DTP but it was not clear how this was intended to be used and these solutions were often over-generously assessed by the Centre.

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Some candidates edited the provided text before including it in their MStreamIT magazine adverts and many produced only simple flyers as their advertising solution, promoting either the company or the top-up cards but rarely both. For the JB Clothing Emporium scenario many candidates failed to include the provided information in their promotional resource. In such circumstances it cannot be considered that the content 'fully meets the specified requirements'.

Some candidates produced DTP outcomes that were either unreadable or not fit for their intended purpose, often because the font was too small to read or inappropriately large but also sometimes because styles such as C-fold leaflets had been used with no apparent understanding of how these would be presented and folded on paper; also where colours used provided insufficient contrast for the content to be read. Font size problems often were the result of candidates working on their products unaware of the scale to which they were presented on screen. Where candidates were allowed to actually print their products these problems were less evident.

Marks in the highest mark band of LO4 were sometimes over-generously awarded by Centres when candidates had used only a limited number of formatting tools and, whilst what they had done had enhanced the readability of the work, much more could have been done to make it more appropriate and easy to read. The specification provides a list of formatting techniques that candidates should be taught and it is expected that a wide range of techniques will be evident in the work of candidates scoring highly in this area. Where candidates' formatting is adequate to improve readability but could be considerably improved by the use of a wider range of tools, or by more consistency, the best fit is more likely to be within MB2.

R003

There is currently one OCR Model Assignment available for this unit – ‘Make the Grade’.

If candidates do not provide evidence of formulae it is difficult to award any marks in LO2, as functionality cannot be assessed. The required evidence can be provided through formula printouts and/or electronic spreadsheet files. The latter are often easier to understand, avoiding problems of truncation/ multiple page printouts/ unreadably small printouts that can occur if several long formulae are used. Significant problems were encountered in the moderation of this unit where the evidence was not complete and/or readable. Centres are requested, when sending electronic files, to inform the moderator of the version of software used, as some features such as drop-down lists may not work on earlier versions than that used by the candidates.

Many candidates produced effective solutions that met many of the requirements in the model assignment, although few considered the issue of enabling new customers and new products to be added and where they did, they generally did not consider how these could be automatically included within choices available on the invoice. Macros were included in many solutions but largely for fairly generic purposes such as navigation between sheets and simple routines such as saving and printing. Some created macros for routines such as printing for which there is already a software button, in which case they added little, if any, functionality to the solution.

The specification lists a range of tools in LO1, many of which can be used to enhance the user-friendliness of a spreadsheet. For high marks in this section it is expected that a good range of these tools will have been used consistently. Some candidates also made good use of macros to make their spreadsheets more user friendly. If candidates have used features such as conditional formatting, which may not be obvious to a viewer, some documentation/annotation is recommended. Some used colour coding to help identify cells for input, but then failed to provide any information to clarify this system for the user, rendering the feature of limited value only.

The effectiveness of the solution needs to be assessed in the context of the user requirements. Where candidates gave no consideration to the need for new customers and/or products to be added this cannot be considered to meet most of the requirements of the brief.

The higher mark bands of LO1 require input messages rather than simply error messages. For the highest marks it would be expected that a range of validation methods, with suitable input and error messages, will be set wherever appropriate. In some cases high marks were awarded where evidence for validation was limited to one cell. Candidates might benefit from being taught the range of validation options available in their chosen software. Almost all candidates used MS Excel, which offers three different validation types – stop, warn and information. Where candidates were aware of these options they were able to provide appropriate validation for a wider range of data.

Marks were sometimes over-generously awarded in MB3 of LO2, which requires the solutions to be both effective and efficient. The range of techniques that should be taught is listed in the specification and this should be considered when awarding marks. Efficient solutions would make use of cell references/names within formulae for discount, VAT and postage rather than absolute values, making it unnecessary for a user to edit formulae in the future or enter any more data than is necessary. Efficient solutions would also be expected to use functions correctly – many candidates appeared confused about the use of the SUM function, using it unnecessarily in most, or all of their arithmetic formulae. An efficient solution would also be expected to make some good use of macros.

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The first part of LO2 assesses the appropriateness and effectiveness of formulae within candidates' solutions. The second part assesses their explanations of these formulae and the understanding they demonstrate through these explanations. Where no explanation has been provided then no mark can be awarded for this second section. Whilst many candidates were able to document what their formulae did, few were able to explain why they were appropriate, giving reasons. Simple descriptions of what formulae do, without any reasons, are most likely to fall into MB1. Where candidates tried to consider alternative (and usually less effective) options they were generally more successful in explaining why their chosen solutions were appropriate. This was most likely to be where they considered ways in which they had ensured their system was efficient.

Most candidates provided good evidence for sorting and filtering the data, with many being appropriately awarded high marks for the first section of LO3, although some generosity was noted in the assessment of charts, where labelling could have been improved. Where, for example, candidates inappropriately leave on a default legend for a chart which has only one set of data, this is not appropriate labelling.

The modelling tasks were often less well attempted, with few providing a range of alternative outcomes where these were required and it was unusual to see candidates who had considered how to present the information found to the customer. Many candidates failed to document their results in any way, making MB2 requirements not fully met. The most common complex tool used for modelling was the Goal Seek option, although it was pleasing to see some make good use of the Scenarios tool. Whilst Goal Seek was generally well used, few candidates provided any justification for its use. Similarly, where candidates attempted to document the results of their modelling, descriptions were often weak. Marks were also sometimes over-generously awarded in this LO where candidates had not provided accurate solutions to all user requirements, although candidates should not be over-penalised here if inaccuracies are due to formula errors that have already been taken into consideration within LO2.

R004

There is one Model Assignment for this unit: 'Cards by James'. Centres are requested to ensure they are using the most recent version of this Model Assignment and associated files as there have been amendments since it was first published.

Many Centres successfully provided a substantial proportion of evidence through the electronic database file, which eliminated the need for copious screenshots. However, some Centres were over-generous in assessing work, largely by taking insufficient account of the requirement in many areas of the mark scheme for explanations. Where electronic evidence is provided, Centres are requested to provide moderators with the name and version of any database software used.

Although there is one basic table structure that is the most efficient solution to the user requirements in the assignment there are many decisions within this structure where there are a range of equally acceptable choices, eg field lengths and validation. It is therefore expected that there will be considerable variation in candidates' solutions.

Marks were sometimes awarded over-generously in LO1 where the table structures and links were not efficient/ appropriate and/or evidence of validation was limited. An effective database structure would include all required fields in the most appropriate table, with no duplication, linked by key fields. Mark band 1 requirements regarding structure are fully met where candidates have added all of the required fields to the customer table provided. Where fields were not added to the most appropriate table, and/or where tables were linked only within queries rather than in the overall structure, this best met mark band 2.

Some Centres had taught candidates to enforce referential integrity when creating links between tables. These candidates were most likely to create efficient structures, as errors would prevent this action, enabling candidates to identify and correct them at an early stage. Teaching about referential integrity not only allows candidates to create more effective databases but it also provides them with a good testing tool, which they can use and explain as evidence for LO4.

For the highest mark, validation rules, with appropriate error messages, and input masks should be applied to all fields where these are appropriate. To be considered 'justification', it would be expected that candidates would consider different options for validation and explain why they chose to set the rules that they did. For example, where a range check is added there is often no single 'correct' range. Many candidates simply described what they had done, with no reasons given. This barely meets the MB1 requirements. In many cases the validation rules and/or input masks set were not consistent with some of the data already entered, in which case they cannot be considered effective and the effectiveness of testing must also be questioned.

Although most candidates demonstrated a good basic understanding of validation some Centres awarded marks over-generously where candidates provided only one or two examples of validation, demonstrating their ability to set rules rather than considering how to use validation to minimise data entry errors. Similarly, some candidates changed other field properties effectively for only a few fields.

Many candidates created effective queries, although they did not always consider which output fields would be most appropriate. The choice of output fields, also formatting, layout and customisation of reports are important differentiators within LO2, as well as the complexity and appropriateness of query criteria. It is advisable to ensure candidates produce some evidence of any customisation they have carried out on reports, so that there can be no confusion with default formatting. This may be in the form of a single 'before' and 'after' printout/screenshot. Some candidates were awarded marks over-generously in mark band 3 of this LO where they had created customised reports which were not fit for purpose, often because of

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inappropriate/unreadable colour schemes and/or not fitting to a printed page. Such reports clearly required considerable amendment before they could be considered fit for purpose. Although some Centres provide entirely electronic evidence, candidates generally benefit from being taught the importance of test printing to ensure the final output fully meets user requirements.

Some candidates were awarded MB3 marks over-generously where their queries were either incorrect or insufficiently flexible to meet user requirements well. At this level it would be expected that some use would be made of parameter queries, in recognition of the fact that the scenarios in the tasks are generally given as examples only. The most common errors were where problems required a combination of 'OR' and 'AND'. Where candidates are taught to test each query result to ensure it does actually produce the output required they should be able to find these errors themselves.

Where candidates attempted them, forms and user interfaces were often well designed and effective and many candidates obtained their highest mark in LO3. The MB3 requirement to provide access to 'forms, queries and reports' from the user interface can be considered met if candidates' interfaces provide direct access to all forms and all reports, so long as there is a report for every query, as this is best practice – access to queries for day-to-day users is through the reports. Candidates from some Centres had been taught to create macros to add tables and queries to their user interfaces. Whilst this additional functionality is not penalised, it is not necessary. To be considered 'effective', as required to fully meet mark band 3 requirements, the user interface should load at start up.

Where marks were over-generously awarded by Centres for LO3 this was most likely due to the data entry forms. Although the assessment criteria for Mark Band 3 state that forms need to be created for 'most' tables, this is in recognition of the fact that some tables, for example those whose sole function is as a lookup table, do not require a data entry form, rather than allowing candidates to achieve full marks for a solution that is not fully usable. Forms at this level should also contain buttons offering a range of appropriate buttons, suitably labelled to form an effective interface.

The weakest section of most portfolios was LO4, where candidates often did not document the testing they had carried out well, and did not explain the methods they had used. Some candidates provided all their testing evidence within a detailed testing section at the end, rather than following the guidance in the Model Assignment, which is to evidence testing throughout. This latter approach allows for more accurate assessment of genuine testing and is likely to be more meaningful to candidates and to lead to more thorough testing of all elements of their solution. Whilst marks can still be gained for testing tables provided in a separate section, this is not required. Where candidates had modified their systems during the production of their work, and evidenced this, they could be credited with identifying and implementing modifications. However, many candidates provided no evidence of any modifications made. Where candidates analysed user feedback as well as their own testing they were more likely to be able to identify modifications that would further improve their system, rather than simply correcting errors. Where evidence was limited to test tables alone, invariably candidates were unable to obtain high marks as they gave no justification for testing methods used.

LO4 assesses candidates on the detail and relevance of feedback they have given on a user interface, not on the quality of feedback they have obtained from others. Therefore it is essential that each candidate provides evidence of the feedback they have given to others as well as the feedback they have received as part of their testing, and distinguishes clearly between them. Some candidates included evidence of other peoples' testing of their user interfaces, which is a valid part of their testing, but failed to include evidence of their own testing of someone else's user interface, which is what they need to be assessed on. If, when marking the portfolio, Centre staff find that this is the case it should be possible to find the feedback that has been given by the candidate and ensure that a copy of it is included in the portfolio.

R005

Most candidates followed the original 'Out and Up' assignment, with a few entries being made using the newer 'Wind and Waves' assignment. A number of Centres had modified the latter assignment by creating an alternative scenario, which allowed them to create user needs that were applicable to the local area. This assignment has been designed to allow this flexibility, whilst not changing any of the tasks. However, some Centres did not forward a copy of the amended assignment to the moderator, which made it impossible to verify the extent that candidates' specifications demonstrated an understanding of the brief.

Centres are reminded that assessment must be in the context of the teaching context for the unit as well as the requirements of the assignment. Where marks were awarded over-generously it was often because candidates had not evidenced the range of tools/skills required at the higher levels.

Although the final products created by candidates were often of a high quality, demonstrating a wide range of skills, the planning and testing were not always of the same standard and these sections were frequently marked leniently. In some cases LO2 was also over-generously assessed, where candidates did not provide evidence of effects and interactivity over and above basic navigation. This was particularly, though not exclusively, true where candidates had chosen to create their products using MS PowerPoint.

Some candidates produced specifications which had clearly been created retrospectively, after the product had been created. This does not demonstrate any ability to plan and cannot be credited in LO1.

Where candidates failed to consider all the user requirements, as listed in the scenario, they were sometimes over-generously assessed as demonstrating a thorough understanding of the client brief. For example, in the 'Out and Up' assignment there are specific requirements relating to the assault course, the café and the Centre's reputation for team building, also regarding the target audience, defined not only in terms of age, and specific objectives listed in the final paragraph of the scenario. Many candidates failed to consider one or more of these aspects within their specifications, in which case they could not be considered thorough and did not meet the requirements of MB3. In some cases it was difficult to ascertain what had been credited by the centre as the specification, as candidates had not attempted to define the user requirements.

Where appropriate success criteria were evidenced, these were specific, measurable and covered all areas listed in the specification. However, many candidates were over-generously awarded marks where specific success criteria had not been stated or where these were inappropriate, sometimes referring to the entire assignment and its assessment rather than to the product. In many cases it was not possible to ascertain what had been credited by the Centre as success criteria. It would have been helpful if these Centres had indicated more clearly the evidence they had considered at each stage, as this would have allowed more detailed and helpful feedback to have been given.

Marks were sometimes over-generously awarded in the second part of LO1, where candidates had not met all the requirements. At the higher levels a wide range of planning documentation is required, with clear plans for the product, including a clearly defined house style. Candidates should have had experience in the use of all the planning techniques listed in the specification. For example, mood boards might lead well into identifying an appropriate house style and choosing graphic components. Candidates from some Centres made very effective use of planning techniques such as spider diagrams and mood boards but some candidates appeared to have created one or more of these items in isolation, rather as part of their planning. Other candidates' planning was limited to a storyboard and in these cases Centre marks were often over-generous.

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Many candidates failed to provide evidence of storing the components sourced and few gave more than basic reasons for choosing particular components, with many comments simply describing the components and/or stating where they were going to be used, rather than any reasons why those particular components were chosen. Candidates from many Centres used generic assets tables, designed to encourage crediting of sources, often providing no reasons for their choice and therefore not fully meeting even mark band 1 requirements. Centres are reminded that whilst some candidates might choose to re-use table formats that they have used for similar tasks previously, templates must not be provided for the purpose of completing the Model Assignment. Where candidates responded to the task without recourse to a standard assets table they were often found to provide fuller reasons for their choices, as they concentrated on the requirements of the task rather than the headings on the table.

When showing evidence of storing components it is essential that this clearly shows the file types used. Where evidence was wholly electronic and Centres provided all candidate folders it was easy to verify the file types but if this was not the case then clear screenshots are needed, of sufficient size and quality to clearly read the file types. Many candidates provided screenshots of their folders but in a view that did not display the file type.

To meet the requirements of the higher mark bands re legislative constraints that apply, candidates' explanations should be specific to the components sourced and should extend beyond basic copyright. The specification lists the legislative areas that should be taught. Once again, those candidates who did not rely on standard asset tables were more likely to provide accurate responses to the assignment task.

Credit was often over-generously given to candidates' explanations for their choice of software. It is expected that candidates will make their own selection of applications software to create their product. In some cases it was clear that the Centre had directed candidates to use a particular piece of software. Where this is the case, the requirement to choose appropriate software is not met, even at mark band 1. Many candidates were inappropriately credited as providing a 'thorough and detailed justification' for their choice of software when they had merely listed a few tools that they could use. At this highest level it would be expected that there would be some consideration of alternatives, with benefits and limitations weighed up. Where candidates' choices were based merely on their own competence they should be considered 'basic'.

The higher mark bands required candidates to consider the software for 'the presentation method of the design'. It is clarified here that this refers to the software needed by the user in order to view the final product, which is part of the decision about the type of product to create. Candidates from many Centres began their specification by stating that they had been asked to create a website or a PowerPoint presentation. By removing the opportunity for candidates to make this choice for themselves Centres ensured that they could not meet this assessment requirement.

Where Centres provided electronic files of candidates' final products, this generally enabled more accurate assessment of LO2, with less effort required from candidates to provide printed evidence, some of whom provided extensive annotated screenshots, which would have been unnecessary had the electronic file been submitted. For this LO there must be clear evidence to show the extent to which the combined components work as an interactive multimedia product, which is hard to judge through static printouts. However, in some cases the files sent to moderators did not work properly. Centres need to test products on a stand-alone system before sending them to the moderator or uploading to the repository. Problems were most often encountered where candidates had used MS PowerPoint, in which case the 'package to CD' option is recommended. Sometimes problems were also found with websites, often because absolute links to Centre network files had been used and/or component files had not been provided. If it is found that a product does not work fully on a standalone system then some means of providing more complete evidence to the moderator needs to be found. Sometimes

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this can be achieved by exporting the final product in another format (in which case the fact that this has been done by Centre staff must be documented) and sometimes additional evidence can be provided by, for example, video, screen capture software and/or witness statements confirming the specific features that work when the product is viewed in the candidate's user area.

The marking grid for LO2 refers to navigation system, effects and user interactivity, which are three distinct aspects. There was evidence of some confusion regarding these terms and Centres are advised to consult the specification content for clarification of these different requirements. An effective interactive multimedia product, as required for MB3, should demonstrate some creativity.

The higher mark bands in LO3 require evidence that candidates have tested the product both while creating and post completion. This was not always clear from candidates' portfolios, making marks above band 1 difficult to endorse. Evidence of testing whilst creating might be in the form of a log, showing how different elements were tested as they were added, and any changes made as a result of this testing. Many candidates simply produced two test tables with different titles, purporting to evidence testing at the two different stages. Where these two tables contained the same tests, this did not demonstrate appropriate testing. It is not possible to test some aspects of the product until it is complete, whilst individual components that have already been tested as they were added do not need testing again at the end. Some aspects of a product are most appropriately tested with reference to the views of others whilst basic functionality should be tested by the creator of the product. Where tests were identified generically, eg 'effects', this falls into MB1 – to be considered 'sound', testing should be specific, considering the particular aspects of the product created by the candidate that need to be tested.

In order to gain marks for the last section in LO3, candidates must gather feedback and analyse this, making at least limited reference to the success criteria. Some candidates gathered feedback but then simply gave their own opinion of their product, with reference to success criteria, failing to refer to their user feedback. If there is no analysis of user feedback then the requirements of even the lowest mark band are not met.

R006

Most candidates had followed the original assignment 'The Camera Never Lies', with a few entries from the newer 'Keep Pets' assignment.

Comments for R005 above, regarding specification, success criteria, choice of software, choice/storage of components and legislation, also apply to this unit, where marks were often over-generously awarded for LO1. In some cases, candidates following the 'Camera Never Lies' assignment concentrated either on the implications of the title or on the aim of promoting the local area, whilst ignoring the other aspect, so demonstrating only a limited understanding of the brief and making higher-band marks in this LO unsupportable.

Candidates from some Centres demonstrated use of a range of research methods, including spider diagrams, interviews/questionnaires and 'competitor' research but in some cases marks were awarded over-generously where it seemed that these had been completed with little understanding of their purpose, without any coherent thread or evidence that this was part of the planning of their solution. However, most candidates demonstrated only a very limited range of research methods to inform ideas. The specification lists methods that should be taught as part of the preparation for this unit and which should be considered when assessing the extent of the range of methods used.

Some candidates produced designs but provided no evidence of any research that had been carried out to inform these designs. Other candidates were awarded high marks in the second part of LO1 despite the absence of even basic designs for their final graphic. To be considered 'clear and detailed', candidates' design plans must be sufficient for a third party to implement with little or no additional instruction.

To meet the requirements of the first part of LO2, candidates need to set resolution as well as image size, if this is appropriate and possible within the software being used. The 'and/or' in the specification is intended to provide flexibility in the type of image and software chosen. For example, resolution would be irrelevant for a purely vector-based image. Where it is possible/appropriate (which is most likely when the scenario is based around photographs) it is expected that both will be set. Some candidates were awarded marks here where they had not provided any evidence for setting up the canvas before beginning their work, whilst others were inappropriately given credit for adjusting these settings after they had completed their graphic rather than before they started. Where candidates made adjustments after they had added components, these frequently had detrimental effects on the quality of the final graphic and demonstrated no real understanding of the importance of size and resolution.

Some candidates provided good evidence of the use of a range of techniques to produce complex images but in some cases the final product was assessed over-generously when it did not communicate the intended message. The final image alone often does not effectively evidence all the techniques that have been used and candidates should be advised to ensure assessors and moderators can clearly see the range of tools and techniques that have been used. The specification lists tools/ techniques that should be considered under the headings of 'standard' and 'specialised' software tools and techniques, although additional tools/ techniques can also be credited. Whilst extensive step-by-step screenshots are not required it is necessary to have sufficient clear evidence to show what tools have been used.

LO3 was often not well evidenced, with many candidates not providing evidence of the files stored. In some cases screenshots confirmed file names but not always folders, and often not file types. Others provided screenshot evidence for the storage of their document files but omitted any evidence of storing digital images. As for many other units, submission of candidate files electronically could have provided the necessary evidence. However, in some cases when

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digital files were provided for moderation, the working files were not included, so there was no evidence of the appropriate storage of both working files and final output. Although these files are unlikely to be one of those listed in the specification as acceptable for moderation, if they are provided solely as evidence of storage and do not need to be opened then this is not a problem.

The second part of LO3 assesses candidates' presentation of their digital images – the assignment asks candidates to present their image(s) for the competition/client. This requires some specific evidence that the candidate has clearly considered how to present their final image(s). If this is by printing, which is quite likely, this cannot be provided directly for repository moderation, in which case the file to be printed could be uploaded and a candidate statement and/or teacher witness statement used to confirm the presentation method and medium chosen. Many candidates this session provided no specific evidence for this part of LO3, whilst some candidates printed out their final image but provided no evidence or explanation of the choices made. These candidates did not fully meet the requirements of this LO.

R007

Most candidates used the original OCR Model Assignment for this unit, producing a product to advertise their local area. Some work was submitted from the newer assignment, 'The Shoulder pads', which seems to have been successful in encouraging creativity in most candidates.

Although this unit allows candidates to create solutions using audio, video or animation the majority of products presented for this unit were video clips. Most Centres provided evidence of the final products electronically, which is the most effective method of demonstrating the quality and effectiveness of the products. In some cases difficulties were encountered using the repository because of the size of the final files. In such cases Centres were able to post files to the moderator on a suitable medium.

It was clear that some Centres had approached this as 'the video' unit or 'the animation' unit, without allowing candidates the choice of final product to be created. Whilst it is accepted that a Centre might spend more time on one type of software than others, candidates must not be directed towards any one type of product.

Many Centres provided candidates with components to include in their products. Whilst this is entirely acceptable, as candidates are not assessed on the creation of components except in the highest mark band of LO2, where 'some' original components are needed, it is not necessary to provide a specific bank of resources – access to the internet is sufficient. Where candidates were restricted to a small bank of resources specifically provided by the Centre it was more difficult for them to demonstrate the originality and creativity required in the highest mark band of LOs 1 and 2.

Some well-designed, creative solutions were seen this session but many products were relatively simple and unexciting slide-shows of images, demonstrating little creativity and in some cases these had been over-generously assessed by Centres.

Comments for R005 above, regarding specification, success criteria, choice of software, choice of components, legislation and testing during production, also apply to this unit.

Unlike R005 and R006, candidates' plans for their product, in the form of timeline storyboards, sketches, scripts etc, are assessed as part of the first part of LO1. In some cases high marks were over-generously awarded in this section where no designs had been submitted. In order to assess the level of complexity, originality and creativity of the proposed solution within this section of the marking criteria it is necessary to assess the candidates' designs, which need to be detailed before the required aspects can be clearly assessed.

The level of independence when defining the specification is assessed in LO1. Many Centres provided no evidence for this. Where Centres made a comment on the unit recording sheet that clarified any support given, this was helpful and appropriate.

When assessing the complexity of the proposed solution, consideration should be given to the range of components and techniques required to produce the final product. This may be, for example, the inclusion of a range of objects being animated within an animation, with sound added; a video clip containing a wide range of different components including video, still images, a variety of text, music and narration, with appropriate transitions and effects or a sound clip containing multiple tracks with a wide range of different components including music, narration and sound effects, with appropriate effects. It might involve the creation and integration of more than one type of dynamic product, eg a video with a soundtrack created by the candidate. Whilst creativity is subjective, candidates working at the highest level should be evidencing some ideas that make their product distinctive, which would elicit positive comments from a viewer.

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The higher mark bands required candidates to consider the software for 'the presentation method of the design'. It is clarified here that this refers to the software needed by the user in order to view the final product, which is linked to the type of product chosen.

Where Centres provided the electronic files for candidates' final products this made it easier to assess the overall quality and creativity of the final product. However, the range of editing/enhancing techniques also needs to be assessed and it was not always possible for moderators to see what techniques had been used by candidates. It is important that these are clearly evidenced. Where candidates import, for example, sound and/or video from external sources these have often already been edited, so it is essential that the moderator can see the editing that has been carried out by the candidates themselves. Where Centres awarded marks in the highest mark band it was helpful when they clearly identified the component(s) that were original, ie that had been created by the candidate as well as where specific techniques had been used.

In some cases it was not possible to find any evidence for the second part of LO 2. Although many Centres provided the final exported files electronically for moderation, evidence of how the product had been saved in raw editable file format was not always provided. As in R006, although these files are unlikely to be one of those listed in the specification as acceptable for moderation, if they are provided solely as evidence of storage and do not need to be opened then this is not a problem. To demonstrate understanding of advantages and disadvantages of different file types some documentary evidence, either from the candidate or in the form of a detailed witness statement documenting verbal explanations, is needed. Centres are advised to be vigilant here to ensure definitions/explanations that are simply copied from external sources are not submitted or credited as the candidates' own work. The best work here came from candidates who clearly related the advantages and disadvantages of the different file types to the work that they were undertaking. Many candidates failed to consider the size of their final product in relation to the requirements of the user.

Many candidates provided detailed test plans, including both functionality and qualitative tests, although some test plans were assessed over-generously where they did not clearly identify the actual tests to be carried out (i.e. how the item was to be tested) and/or expected outcomes.

To be credited, there must be some clear evidence of testing during completion, not simply a candidate statement saying that this had been done. Some candidates produced duplicate test plans, labelling one 'during completion' and the other 'after completion'. In many cases tests included in these tables were not appropriate or possible during completion, eg testing the length of the final clip. If candidates were encouraged to complete an implementation log, this would more easily and effectively demonstrate the genuine tests that are carried out as components and features are completed/added. The highest mark band of LO3 requires candidates to identify re-tests. This was rarely evidenced, with some Centres awarding marks over-generously here.

R008

A range of effective programs were seen again this session, with candidates demonstrating a good understanding of the chosen programming language, through clear and thorough annotation of their programs. Where the products were provided electronically this aided moderation, so long as the moderator was able to freely download any software required to open them. Guidance for moderators about how to view programs, on the Unit Recording Sheets, would be welcomed, as it cannot be expected that all moderators will be completely familiar with all possible programming tools.

A range of programming tools were used by candidates, including Scratch, Python and Kodu, with the majority of submissions using Scratch.

LO1 was generally the weakest area, with selection of a programming language often being based upon familiarity alone or generic, unrelated to the scenario/candidates' design ideas. Success criteria were not always clear and comments relating to these in the R005 section above are also relevant here.

Where candidates analysed the problem well they identified the outputs, inputs and processing requirements accurately but in many cases candidates wrote about what would happen in their games without fully analysing what this required in terms of inputs, processing and outputs within the program. To fully meet MB3 requirements in LO1, inputs, processing and outputs should be analysed in terms of what the program needs to do rather than simply what the user will see on the screen.

The first part of LO2 was often very strong and accurately marked, with well-structured, effective programs produced, using an appropriate range of constructs, variables and operators to produce interesting, playable games that met all or most of the criteria from the assignment. In only a minority of cases were the problems too insignificant and the solutions insufficiently complex to warrant the mark awarded by the Centre. The highest marks in the second section of this learning outcome were achieved where candidates clearly demonstrated their understanding of different programming constructs in their annotations. In some cases marks were over-generously awarded where candidates re-iterated what their programs did, often identifying the overall function of procedures/sections of code but did not demonstrate understanding of the individual lines of code and/or the types of construct used within them.

Centre marks for LO3 were sometimes over-generously awarded where candidates' testing was very limited, often running the program once, without considering the range of different situations that might occur. Candidates should be taught to develop test plans to test the different types of error that might occur, using different test data/methods as appropriate. The best testing also demonstrated consideration of time and efficiency by editing programs so that higher levels could be tested without having always to fully complete the lower levels. To be considered comprehensive, candidates need to consider the different states that need testing at various points within their programs, rather than just seeing if they can get to the end.

R009

This is a technical unit and in some cases candidates' portfolios failed to demonstrate the level of technical understanding required to justify the Centres' marks.

The scenario in the Model Assignment includes a number of different aspects which need to be addressed before Mark Band 3 can be considered by an assessor. To demonstrate a detailed understanding of the use and function of computer components and devices it is necessary for candidates to provide sufficient details of the components included in the systems they specify. For example, if they have not considered specifications such as RAM, CPU and HDD when selecting computer systems they are not demonstrating any understanding of these basic components.

Marks were sometimes awarded over-generously in LO1, where candidates had chosen a computer system and written about its advantages, but not explained why this was necessarily the best system. To be considered as 'fully justifying' choices, it is expected that candidates will give clear and specific reference to user needs and explain why their chosen item is the best match to these needs, considering the specification of its components. This invariably requires some consideration of alternatives.

Where candidates' descriptions of components/specifications were generic and unrelated to the needs within the scenario of the assignment these were sometimes over-generously awarded high marks by Centres, as the understanding of the use and function of the components and devices needs to be expressed through candidates' explanations of choices made to meet the needs of the client.

Candidates from some Centres selected and wrote about a wide range of different components, as listed in the specification, but appeared to be unaware that these alone would not provide them with a working computer system. Where candidates selected existing complete systems after considering different aspects of their specifications with specific reference to the user needs they were more likely to meet the requirements of the higher mark bands.

LO2 was often the strongest area of the portfolio, with many candidates demonstrating at least a sound understanding of network structures and components, although some Centres appear to have focussed on the traditional bus, ring and star topologies, rather than those identified in the specification content and this resulted in some candidates trying to apply these traditional topologies to a wireless network, demonstrating a lack of understanding. It is important that preparation for this unit covers the topologies listed in the specification.

Whilst candidates generally provided some well-presented trouble-shooting guides, clearly demonstrating the transfer of skills from other units, these were often limited in coverage to non-technical solutions, listed in the specification as 'simple hardware and network problems' and did not cover any of the other areas of content that candidates should have been taught, therefore failing to meet higher-band requirements. The best trouble-shooting guides provided a range of strategies for identifying the source of problems from generic symptoms, rather than expecting the user to know what the problem was. Some candidates were awarded marks over-generously where guides concentrated on solutions to known problems (eg 'the printer is out of paper'), hence generally providing a single solution for each problem, which is mark band 1 level.

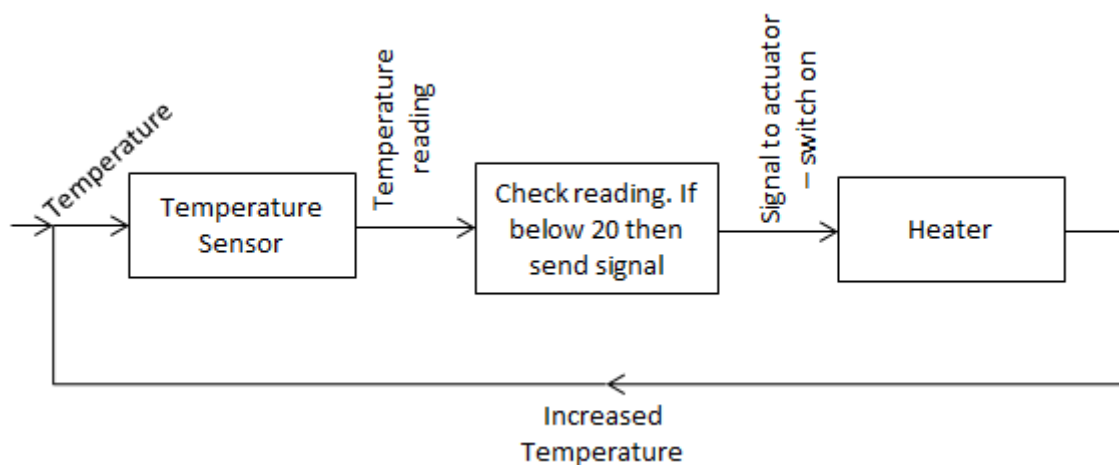
R010

There is currently one OCR Model Assignment for this unit – ‘Monsieur La Glace’. The scenario within this assignment creates a number of user requirements, relating to environment, security and lighting. Where candidates failed to consider all aspects of these requirements they could not be considered as demonstrating a thorough understanding of requirements or as meeting all user requirements. Even where candidates did demonstrate some consideration of each of the above there remained some over-generosity in Centre assessment where this was superficial, without consideration of the different needs at different times of day. For example, some systems would sound an alarm if a person entered the room, regardless of whether the exhibition was open or not.

Although candidates from some Centres demonstrated good understanding in this unit this was not always the case and many candidates’ designs and explanations evidenced confusion about input-process-output and about different sensors and their capabilities. It is recommended that candidates are given the opportunity to experience physical control systems, using real sensors, actuators and devices, even if resource limitations mean that the assessment has to be completed using a virtual control system. Some candidates identified the need for sensors but were unaware of the type of sensor needed for the situation identified or its properties. For example, they might have identified the need for a sensor to detect the presence of people in the room but were unable to identify a particular type of sensor that would be appropriate, at best using vague names such as ‘movement sensor’, demonstrating no understanding of how the element (eg movement) would be detected and often failing to identify where the sensor needed to be sited.

Where candidates produce good designs, reasons for choices were generally not of the same quality, often limited to vague descriptions of what the component would do, rather than why it had been chosen. Where candidates considered alternative approaches they were generally better able to explain their reasons for their final choices but understanding of the properties of components was generally not evident.

Some confusion about block diagrams was apparent. Essentially a block diagram is a simple diagram that shows input devices, output devices, processes and the data flowing between them, including variables and feedback. At this level we would want to be quite flexible about the precise nature of the diagram, but it should include all of the above components. One example, for a heating system, is shown below:



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LO2 was generally the most successful part of the portfolio and the most accurately assessed, with many candidates producing effective systems, usually through the use of a virtual control system. However, some over-generosity was found where candidates had created the software element of their design but had not created an appropriate model, either real or virtual, showing the different sensors and output devices to be used. Some candidates' solutions consisted of a number of virtually identical routines, to switch on an output device in response to a trigger from a sensor, but they were not put together into a coherent working system, with no distinction between two-state switches and sensors such as temperature.

Testing was sometimes over-generously assessed, where candidates often tested each part of their system once, without considering a range of possible situations. To be considered 'thorough', as required for the highest mark band, testing needs to consider all possibilities, to ensure the system will work in all situations. Where candidates demonstrated some understanding of the role of normal, abnormal and extreme data in testing their test plans were generally more likely to be comprehensive.

Implementation and testing of a system is, at its best, an iterative process, with testing revealing areas that need to be modified, these modifications made and a final system produced. Therefore it cannot always be expected that evidence for LOs 2 and 3 will be completely separate. Modifications/ refinements appear in both LOs 2 and 3. It is not expected that two different sets of modifications/ improvements will always be provided. LO2 is concerned with the efficacy of the overall final solution whereas LO3 is concerned with the testing process and marks are awarded here on the strength of the justification of any modifications.

If candidates do not require any refinements to their system, marks can be awarded in the second part of LO3 on the strength of their justification for this decision, together with an assessment of the accuracy of the decision. In most cases candidates should be able to consider some refinements that could be made to their systems, which do not have to be limited to the correction of errors. If there are obvious refinements needed and these are not identified by the candidate they should not be awarded marks over-generously in this section.

R011

There is no Model Assignment for this unit, as the nature of the unit makes any set user requirements or tasks inappropriate.

As in previous sessions, most Centres that entered candidates for this unit had misinterpreted the focus of the unit, with many providing candidates with a restricted assignment brief, rather than allowing them to come up with their own ideas. Others asked candidates to simply repeat work carried out in another unit, eg R005, simply choosing a different user for themselves, so again they did not have to determine for themselves the stages required in the project, as they merely repeated what they had done before. This was not appropriate and severely limited achievement in this unit, where most of the marks are available for the project approach, rather than for the final outcome. Marking was often found to be over-generous in all LOs.

Unit R011 is designed to allow learners to develop their planning, research, presentation and analytical skills by undertaking a learner-initiated individual project with an ICT-related theme. The nature of this unit means that each learner should agree an individual project title with the teacher in order to produce evidence that meets the marking criteria. Candidates should be provided with the unit content and assessment criteria only – a detailed assignment and task instructions must not be provided. Some examples of the range of project types that could be chosen by individual candidates can be found in the unit specification. It is not expected that all candidates will choose the same type of project. Where they choose to focus their project on the area of one of the other units, this must extend the learning already achieved and not merely repeat what has already been done, which has no educational value and no relevance to this unit.

LO1 assesses candidates' ability to initiate projects, considering the different forms the project output could take, choosing a project topic, setting objectives, identifying success criteria and dividing a project into manageable stages, using planning tools to create plans.

Project objectives might include:

- Required outcomes
- Completion date
- Specific qualitative criteria that must be met

The project plan should consider the project objectives and divide the task into smaller, more manageable and measurable stages, which should then be considered in the context of the time available and allocated timescales. Where candidates' had access to project management software this was a benefit to them.

Where candidates carried out research using a range of sources, including both primary and secondary, this was generally well done and assessed accurately. However, some Centres appeared to misinterpret the requirement for a 'range of' sources' as a range of websites. The specification lists the range of sources that might be considered; the World Wide Web is considered one source. To be considered a 'wide range', both primary and secondary sources should be evidenced. Simply using physical books and magazines to find information which is more readily available on the internet is not appropriate.

Justification for choices of resources and reliability checks were often quite basic, often reflecting a lack of clarity regarding exactly what information was needed. Justification of choice of resources is more than just stating the content found. Candidates should consider why that resource, rather than alternatives, was the best for the purpose, comparing different types of source as well as looking at what that particular source offers.

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Although mark band 3 of LO2 requires candidates to complete their project, meeting their defined project outcomes, the main focus of this LO is on the project record, showing how candidates have followed their plan, recorded their progress and reviewed/modified their plan as work progressed. This was generally a weak point in the work of candidates seen this session. Candidates from a number of Centres did not complete a project record, so failing to meet even MB1 criteria.

Where candidates had a methodical approach to review, considering each of their objectives in turn, and focused on their approach rather than their outcome, evaluations were more successful. However, in many cases Centres awarded marks over-generously where candidates had evaluated/reviewed their product/outcome rather than the process of carrying out the project.

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