

Information & Communication Technology A

General Certificate of Secondary Education **GCSE 1994/1094**

Report on the Units

June 2008

1994/1094/MS/R/08

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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 syllabus 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.

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Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

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Chief Examiner's Report

The Full Course (Specification 1994) is comprised of four units: 2357, 2358, 2359 and 2360. The Short Course (1094) consists of Units 2357 and 2358 only.

Units 2358 and 2360 are internally assessed coursework. Units 2357 and 2359 are externally assessed written papers.

General Comments on Units 2357 and 2359

For this specification, Centres are advised to remind their candidates that all answers must be written on the lines provided and within the marked areas.

General Comments on Units 2358 and 2360

It is a requirement for both Unit 2358 and 2360 that Centres submit a Centre Authentication Form (**Form CCS160**), signed by its teacher/assessors, and this form should be posted to the moderator with the mark sheets (**MS1**) and, where applicable, Coursework Summary sheets. It is also a requirement for each candidate to sign a Candidate Authentication Form indicating that the work submitted is their own. These forms should be retained at the Centre unless requested by OCR.

Moderators noted that Centres were not so efficient in the dispatch of documentation as in previous sessions and that this considerably impeded the moderation process. Centres are requested to ensure that the moderator receives all the required documentation by the deadline date. While this comment applies to both coursework units, in Unit 2358, where there are choices of strands, the accompanying documentation is essential in enabling the moderator to choose a representative sample.

In a number of instances, the coursework was sent by Centres to the incorrect moderator. Centres are reminded that Units 2358 and 2360 have different moderators and they should take care to send the work to the correct moderator. A number of moderators reported receiving work labelled for one Unit but actually being of the other Unit. This created considerable extra work for moderators in despatching the work to the correct moderator and delayed the moderation process.

Centres are also reminded that there must be internal moderation of the coursework to ensure that all candidates work is marked to the same standard. Moderators who find that work has not been internally moderated are required to return work to a Centre for remarking.

Note also that OCR offers a Coursework Consultancy Service for those in any doubt of the suitability of the coursework being submitted.

2357/01 Paper 1 (Foundation)

General Comments

The candidates generally performed well in the questions that they attempted but there were too many instances of candidates not making any attempt to answer a question. Candidates did not achieve marks due to the use of trade names instead of generic software types, vague answers, duplicate answers or functions and formulae written incorrectly.

Comments on Individual Questions

- 1 This was answered quite well. Most candidates obtained all four marks.
- 2 Most candidates gained at least three marks for this question. Wrong answers were split fairly evenly amongst the five parts.
- 3 Many candidates scored half marks or more. A number of candidates placed ticks in both boxes in a row and consequently scored no marks for that row.
- 4 Most candidates obtained at least two marks. Searching and sorting were usually correct, but the other two answers were often interchanged.
- 5 “Take regular breaks” was a common answer which gained a mark. Unfortunately many candidates repeated this and were not credited a second time. Many candidates clearly did not know the term RSI. Disturbingly, a number of candidates confused RSI with STI.
- 6 Candidates had clearly used the features of graphics packages, but lacked the communication skills or knowledge to describe them. Many used the term in the question in their answer e.g. “Layer means to make a layer”. Many gained the mark for resize and fill, but a precise description of the other two proved to be difficult.
- 7
 - (a) Relatively few candidates gained the 2 marks, almost always for ‘typing is easier’ or ‘fewer mistakes’. Candidates usually related their answers to the printout rather than the database.
 - (b) (i) This was answered poorly. Candidates could relate to the simple situation which was presented to them. Wrong answers included proof reading and validation.
 - (b) (ii) This was also answered poorly. Candidates still do not emphasise that the reason for verification is to ensure that data is transcribed correctly, not to ensure that the data is correct.
 - (c) This was answered well, most gaining the mark.
 - (d) This was answered well, most gaining the mark.
 - (e) Very few candidates gained full marks. Many did not take care to ensure the field name in the query matched the field name in the database or that it was necessary to spell the query name correctly. There were an equal number of AND and OR entries in the query. Many candidates merely wrote the query in prose – repeating the question.
 - (f) Most candidates could think of three ways, although few gained more than one mark for each way because brand names were quoted instead of the type of software.

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- 8 Many candidates gained one mark, but very few two. One simple statement was offered as an answer, but a second one or an expansion of the original statement was needed for the second mark.
- 9 (a) This was answered quite well, but still many candidates write an incorrect format for the cell reference e.g. D,2 or 2D
(b) The comment is the same as for part (a).
(c) The comment is the same as for part (a).
(d) Not many used the most appropriate formulae. Many who produced a formula which was close did not gain the mark because the equals sign appeared anywhere, not at the beginning where it should.
- 10 Most candidates achieved the marks for *spell check* and *copy and paste* but not many achieved the mark for *proof reading* and *validation*.
- 11 (a) Most candidates seemed to know the answer to this question but failed to get credit due to poor communication skills in expressing the ideas accurately. One word answers such as “safer” or “cheaper” did not gain credit. The most popular answers which gained credit used these ideas but explained them coherently.
(b) Most candidates achieved the mark for this question by describing that the simulator did not give a real experience.
- 12 Very few candidates scored the mark by correctly identifying in any form the conversion of analogue to digital data and/or the reverse. The most common answer was “connect to the internet” or some reference to backing storage.
- 13 Most candidates gained the mark by correctly identifying a link to another page/website. Many candidates seemed to have difficulty with communicating their answer.
- 14 (a) Most candidates once again fell down through lack of communication skills and a failure to make their response coherent and intelligible. Many candidates referred to the laptop features and not to their use.
(b) This was answered quite well with laptops being stolen or damaged being the most popular answers.

2357/02 Paper 1 (Higher)

General Comments

Most candidates answered all the questions. The use of brand names was evident and candidates failed to score marks because of this. Centres are reminded that candidates must use generic terms such as spreadsheet, word processor etc.

Centres are reminded that candidates should be taught the theoretical specification content requirements as well learning the use of the application tools.

- 1 This question was usually well answered with most candidates scoring at least 3 of the marks. Common errors were with the first and third response with many failing to score the third – often confusing *verification* and *validation*. Those that failed to score the mark of copy/paste did so because they did not quote both aspects or did not realise that the formula had to be copied into many cells.
- 2
 - a Most candidates scored 1 mark here, few scoring both. Common errors were “easier”, “cuts down writing”. Many observed that it “would not take as much space” but few stated that it would use less memory/disk space. “Fewer spelling mistakes” was also a popular, inaccurate, response. Many candidates suggested that “it would be obvious what M and F meant as these were common abbreviations. There were also a number of responses stating that it “would be easier for the computer to understand”.
 - b Very few candidates scored the mark here. Verification is to ensure that the data has been accurately transcribed from an original source. Many candidates lost marks because they stated “data entered is correct”.
 - c This question was well answered, although a significant number of candidates still do not understand ascending and descending.
 - d Most candidates scored this mark.
 - e A large number of candidates scored all or most of the marks on this question. A lot of variation here. However, many omitted the ‘=’ sign and the ‘AND’ or did not include all 3 conditions. There were a number of candidates that also failed to use the correct field names and some who wrote a description of what to do.
 - f This question was answered quite well by most candidates although many failed to score because they used brand names; they merely listed the documents they would produce e.g. a letter without stating how they would use them.
- 3 This question was well answered by many candidates but a significant number did not score the marks because they described how it could be done but failed to address the question which asked for why altering an image may be inappropriate. Good answers included copyright issues, bullying, misrepresentation etc. and candidates seemed to be aware of these issues.
- 4
 - a This question was well answered.
 - b This question was well answered.
- 5 This question was not well answered.
- 6 This question was well answered.

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- 7 a This question was well answered although a significant number of candidates stated “neater”, “faster”, or “not so much paper used” as advantages.
b This question was well answered by many candidates. However, it would appear from many answers to Q7b that a substantial number candidates deem the use of websites, forums, email, chat-rooms, games websites, etc. as a “time-wasting”, “social” or “inappropriate” activity and are unaware of the use of these as a source of information, idea-exchange or learning activity.
- 8 Many good answers. Some candidates related this question to the previous one and gave answers relating to school work and did not refer to those persons who work from home using ICT. Others referred to taking work home. Many answers were related to cost and there was also mention of people being able to work in their pyjamas!
- 9 This question was not well answered. Most responses did not mention the use of microprocessors and many discussed the use of smoke alarms, thermostats but with little or no reference to any monitoring, control, codes, or programming. Many candidates did mention the use of sensors but did not expand on how they could be used in a system to make the home safer.
- 10 This question was well answered by some but poorly by others. Many candidates still seem unaware of the IT term “model” and still describe smaller versions of the real item e.g. a small pond that is easier to build than a real one. Better responses included references to predictions, “what if” scenarios etc.
- 11 This question was well answered by many candidates but most concentrated on buying/shopping and mentions of selling/retailing were few. Few candidates mentioned the advantages/disadvantages of on-line auctions or the advantages/disadvantages to sole traders.
- 12 Many candidates produced long lists/explanations of the *content* of the website and paid little attention to the questions requirement that they discuss the *design* of the site. While some credit was given for detailing the actual content, the best responses considered the aspects that should be included in a design specification.

2359/01 Paper 3 (Foundation)

General Comments

The majority of candidates completed the whole of the paper. The multiple choice questions were generally well answered with only one or two common mistakes which are detailed below.

Comments on Individual Questions

- 1 Most candidates correctly identified 'backing up' but fewer chose 'encrypting' as the other answer. The most common wrong answer was 'Authorising'. Quite a few candidates did not attempt this question.
- 2 This question was well answered; the majority of candidates gaining maximum marks.
- 3 Many candidates gained full marks on this question.
- 4 CD-ROM was often chosen, incorrectly, as a data capture device.
- 5 The most common responses were 'images', 'pictures', 'sound' and 'videos'. Some candidates gave data types such as Number or Date/Time as their answer.
- 6 Not many candidates gained four marks. Quite a few candidates used the three spelling mistakes as three separate answers. Many wrote vaguely about 'layout'.
- 7 Most candidates gained one mark for naming A but B and C often eluded them. C was sometimes identified as a 'router' or 'modem' or 'a mainframe'.
- 8 The most common mark for this was two. Many candidates selected *operating system* as the software that scans for viruses and carries out disk formatting.
- 9 This was poorly answered. 'email' was a common incorrect answer.
- 10 'Bar code reader' was the most popular device identified. 'Weighing scales' was fairly common but 'touch screen' was rarely mentioned. Few responses gave reasons why the devices were used but instead described how they were used.
- 11 (a) This question was generally well answered.
- 11 (b) Many candidates relied on describing security measures that might be taken such as 'passwords'. Only a few candidates gained three marks by stating three principles of the Data Protection Act.
- 11 (c) Common misconceptions were 'many people would have the same age' or that knowing your age could lead to identity theft. Many realised that the solution was to store *date of birth* not *age*.
Part (iii) was not well answered. Very few candidates understood that it would make searching and sorting easier.
- 12 (a) The most common answers were 'hard disks store more data' and 'CD ROM's cannot be re-written'.

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- 12 (b) There were few correct answers. However, archiving was often confused with backing up.
- 12 (c) There were few four mark responses. Marks were mostly gained for 'no need for shop premises' and 'world wide markets available'. A large number of candidates misinterpreted the question and gave advantages to the customer rather than to the company.
- 13 (a) This question was generally well answered with many candidates appreciating that data must be transferred from the old to the new system.
- 13 (b) A common misconception was that it was to compare the new system with the old.
- 14 (a) A large number of candidates gained one mark from this part, but most supplied very vague answers.
- 14 (b) Marks were usually gained for 'can work 24/7' and 'they don't need paying'. A common response was 'robots are quicker than humans'.
- 15 This question was very badly answered. There were very few worthwhile responses. A common answer to part (b) was 'heat'.

2359/02 Paper 3 (Higher)

While most candidates attempted the majority of the questions and made a reasonable effort throughout the paper, overall the candidates performed disappointingly on a paper which allowed all candidates opportunities to display their knowledge.

It is disappointing to see so many candidates failing to answer questions well which only require fairly basic technical knowledge.

General Comments

- 1 (i) Generally this was not as well-answered as was expected for a straightforward question. Many candidates talked about personal reasons.
- (ii) Many candidates gave the correct answer but some suggested the field should be deleted.
- (iii) Few candidates managed to score two marks on this. Most candidates gained one mark for either searching or sorting. Some candidates gave the correct response of mail merge.
- 2 Candidates often, incorrectly, gave email and internet as answers but a number gave variations of telephone line, cable, and wireless.
- 3 Candidates quite often only managed to get one correct device and even then tended to give how it is used rather than the reason why it is used
- 4 (a) Candidates often gave one correct answer but seldom gave two correct answers.
- 4 (b) Candidates rarely gained marks mainly confusing archives with backups.
- 4 (c) Some good answers were seen but many candidates gave answers from the point of view of the customer rather than the company.
- 5 (a) Most candidates gained at least one mark.
- 5 (b) Candidates generally did well here with answers relating to backup system being most common.
- 6 (a) This was reasonably well answered with candidates often identifying poor programming but few gained a second mark being intent on making vague statements like the robot malfunctioning.
- 6 (b) Many candidates gave the 'can work continuously' answer but few gained a second mark. It was disappointing to see the number of 'more accurate' type answers with candidates ignoring the wording of the question.
- 7 (a) Although a reasonable number of candidates gained at least one mark, it was disappointing to see the candidates ignoring the focus of the question. A number of candidates answered as if it was a greenhouse not a house. Many candidates named devices, despite the question asking for 'items of data'. Some candidates gave the single word 'temperature'.
- 7 (b) Many candidates incorrectly gave the answer 'heat'.

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- 7 (c) This question was very poorly answered. A large number of candidates took feedback to mean giving oral feedback such as a student might expect from a teacher. A number tried to put the provided diagram into words without understanding the concept.
- 8 (a) Most candidates managed to score some marks but few gained more than two. There were many misunderstandings on the part of candidates some claiming that voice output would help the deaf.
- 8 (b) Not many candidates provided good responses. A lot of candidates ignored the word 'special' in the question giving typical hardware devices as their answers.
- 9 (a)(b) These questions were very poorly answered with most candidates equating on-line processing with using the internet.
- 10 Another poorly answered question. Very few candidates seemed to know anything about expert systems.
- 11 Candidates very rarely gained more than half marks. Many seemed to think that the Acts would bring to an end any of the illegal activities. Candidates seemed to miss the point of the question which was to identify the purpose of the Acts rather than the contents of the Acts. Many candidates listed as many data protection principles as they could think of.
- 12 This was well answered by a number of candidates but a number misunderstood the question. The question stated that the screens were to be used as 'input forms'. Rather than concentrate on the input form aspect, many candidates wrote about the use of monitors.

2358 Short Course Projects 1a/1b

General Comments

Although there was an increased understanding of the requirements of the coursework, there were still a number of causes for concern.

As has been noted in previous reports, where Centres failed to apply the assessment specification accurately it was mainly in Project 1a. There was still a number of Centres where teachers failed to indicate whereabouts in the work evidence for meeting criteria could be found. It is apparent that not all Centres are taking advantage of the Teacher's Guide published by OCR. This should be used in conjunction with the criteria for assessment, the notes for guidance as well as this report. If all four were used when assessing the work, this would remove many of the problems apparently experienced by Centres.

The training courses which OCR organise also provide opportunities for individual Centres to raise points specific to their own candidates' work.

Many Centres had to be reminded to provide the Centre Authentication sheet (CCS160) signed by its teacher/assessors.

There were still, however, a number of Centres failing to send Coursework Summary Forms. This delays the whole moderation process and can result in Centres failing to have their results published on time. It is in the Centre's own interests to adhere to deadlines and to also provide the coursework sample within the 3 working days deadline.

Again, the lack of internal moderation carried out in a minority of Centres caused problems. Centres are reminded that they have a responsibility to carry out internal moderation of marking. If internal moderation is not carried, moderators are required to return the work to Centres and ask them to re-mark the work and this will result in a delay in publication of the Centre's results.

Project 1a

A number of Centres still fail to understand the need for candidates to meet all the criteria in a given mark range. This process has always been applied for Project 1b and so should have been fully understood by Centres.

Centres are reminded that for marks above 10 candidates must produce a significant piece of work. This means that a booklet or website of 8 pages, or a presentation of 8 slides is required as a minimum. Some Centres still submitted a business-oriented task of business card, letterheads etc. This is not a significant piece of work. Neither is the production of a poster. The production of an 8 page children's booklet with a tiny amount of text also does not meet the criteria.

Centres are still failing to realise the importance of the use of non-IT sources. Candidates fail to get even the lowest ranges of marks if they fail to include information from non-IT sources and at least one IT source in their final document. Just collecting leaflets and booklets or magazines is insufficient. Information from them, whether it be text, images or numbers, must be incorporated into their final product. All non-IT sources must be hard copy. The use of the candidates' own knowledge, memory or 'my teacher' is not considered to be using non-IT sources. The evidence should be in the form of the original but where this is not possible, such as using books, candidates must include photocopies.

The requirement for the inclusion of numbers is also mandatory at low mark levels. Candidates cannot base their use of number on graphs if they do not show the table of numbers which their graph is based on. Some Centres have candidates which copied and pasted graphs which were really images from their sources. Any confusion is easily removed if the original numbers are included and the method of graph production is demonstrated.

The easiest approach is to use a table of numbers (as requested in the Teacher's Guide at 8-10 mark level) in the final document and also showing in their write up where these numbers came from.

Examples of misconceptions:

Centres seemed to struggle with the concept of purpose. As it mentions in the Teacher's Guide, the purpose must include identification of an audience and a description of the information to be communicated as well as the reason for undertaking the work. The reasons are often omitted by candidates. Some Centres still seem to think that it is in order to get the candidates to produce a booklet on their favourite football team, music artists or other pastime without giving thought as to why this might be needed.

For marks higher than 7 candidates must relate the development of the work to this audience. As it says in the Teacher's Guide, development must be evidenced by at least printouts of three different stages of the development. Where candidates are producing a significant piece of work there will obviously be more stages of development. The audience must be referred to at each stage of development. The purpose of the work is the reason for producing the documents and should not be construed as the task itself.

The inclusion of a purpose is a requirement of even the lower mark ranges and failure to provide a reasonable purpose could lead to a large reduction in marks. Most candidates who were successful concentrated on identifying an audience, usually a specific age group; the purpose of the work being to attract that type of audience. A number of candidates specified an audience which was far too wide ranging to be categorised when describing the development. Phrases such as the picture/work was eye-catching or professional looking would really apply to the vast majority of publications and so cannot count in this context. In addition, just writing that they have made changes as they felt it would suit their audience is not enough. Candidates need to say why they feel it would suit their audience.

Many candidates still failed to provide evidence that they had collected, and then incorporated into their final products, information from non-IT sources. It is not sufficient to just collect information from non-IT sources. Candidates must take this information and incorporate it into their work, i.e. the final product. It is not sufficient for candidates to look at the Internet or CD ROMs, or in magazines, books and newspapers for 'research' purposes. Many candidates think that the point of collecting non-IT sources is to provide ideas for layout and presentation. It is not; it is so the information collected can be used.

Some Centres mistakenly think that the reference in the specification and in the Teacher's Guide to a 'piece of work' includes their documentation. This is not so; checking and consistency apply to the product, not to the candidate's write up.

One other major failing was, once again, the lack of evidence of number in the work of many candidates. As has been stated in many previous reports, the rationale behind the use of text, images and number is that in any given document the formatting of each of these is done differently. There is a requirement that candidates are aware that numbers are formatted differently to the other two forms of information. One example is the use of currency, where each one would have a currency symbol in front of it and each number would have the decimal point in line with its predecessor etc. An awareness by the candidates of the need for the different formatting requirements of numbers is all that is required. A number of candidates are still using

phone numbers as their evidence of number. Telephone numbers do not meet the criterion for any skill which mentions number. Numbers are those which can, or have been, mathematically manipulated. Where data types such as dates or times are used they cannot have dashes or the word to (as in opening times) as this makes them text. Graphs can be construed as images unless the manner in which they are produced is documented fully.

A significant piece of work is deemed to be one of at least 8 sides of A4 or even A5. The 8 sides is the actual product and this does not include accompanying documentation. A number of Centres ignored this.

For marks above 13, information from a minimum of 2 different IT sources must be included in the booklet or presentation. The internet is considered to be only one IT source. Candidates must actually incorporate a minimum of the four pieces of information (one from each source) into their final booklet/presentation and at least one piece should be numeric, at least one should be text and at least one should be an image. In addition searching using multiple criteria requires the use of Boolean operands or the use of Advanced Search features. The resulting information found must be included in their final product.

It appeared that certain Centres allowed candidates to spend a lot of time producing a booklet and then, at the end of this process, tried to identify the skills which had been awarded. A more structured approach is suggested whereby candidates are advised how and where they can obtain credit for skills. One simple way of structuring the work is to allow candidates to produce between two and four pages of a booklet confining themselves to the use of in-house clipart and scanned images as their pictures. The candidates can then complete their booklets by moving on to use the Internet as a source of further information. At the other end of the spectrum, as GCSE candidates must work independently, a structure which involves worksheets which clearly define each step in the process and dictate to the candidate what they should do is also advised against. Such an approach or other on-line methods such as writing frames, can limit a candidate's ability to produce their own work.

The single biggest shortcoming in the work seen was the inability of candidates to meet the hyperlinks/refined search criterion. It cannot be achieved by candidates simply following a number of hyperlinks. Candidates have to relate their choice of which hyperlinks to follow to their purpose and audience. Many candidates do not refer to their audience when considering which hyperlinks to follow or indeed which information to use as a result of following the hyperlinks. This leads to a reduction in marks. A number of hyperlinks must be followed and the resulting information they find must be used in their final product, For marks in the top mark range candidates must provide evidence of having used a proof reader as well as a spell checker.

Project 1b

A number of Centres are still not following the requirements of the specification that in order for a candidate to be awarded a mark within a given mark range they must match all the criteria within that mark range.

Comments on Individual Strands

Data Handling

Centres are reminded that In order for a candidate to be awarded a mark within a given mark range they must match all the criteria within that mark range. A number of Centres disregarded this requirement and had their marks reduced accordingly. In this specification the criteria are hierarchical and so if a candidate fails to verify their database, for example, they are going to get very low marks no matter how many of the higher criteria they have met.

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There were still a small number of Centres awarding marks for this strand despite there being little evidence of searches (interrogation) performed on the database used. This leads to a mark of zero being awarded. The evidence required for this is a printout of the matching records.

For marks of 8 and above, candidates must produce a manually completed data capture form. This was confused by some Centres as being equivalent to the data entry form as used in packages like Microsoft Access, for example. This is not the case. A data capture form is a grid like table with field names as headings and data copied manually from the collected sources for 14 to 16 upwards or just completed with known data for 8-13 marks. Candidates showing screen dumps of data being entered into data entry forms on the computer do not fulfil this requirement.

For 14 to 16 marks to be awarded candidates must provide evidence of using a range of sources. This must include evidence of the actual magazines or web sites. Printouts must show the data that has been transferred to the data capture form. They must also give reasons for selecting the data for inclusion in the database. The Teacher's Guide for the specification explains in detail what is required. Reasons for choosing fields cannot be based on the proposition that these were what were required by a 'user'. It can be a list of possible questions (queries) which the database is required to answer which the candidate uses to deduce the fields required to answer such questions. It could be a survey of a number of possible users as to what fields would be needed and then deducing from the response what fields are required.

For marks above 16, candidates must use Boolean operands in their searches. The criterion refers to complex searches (plural) and so requires an absolute minimum of two complex searches. A minimum of two different Boolean operands must be used.

Some Centres are still confused over the requirements for validation. Proof that validation has worked is required. This is done by producing screen dumps showing error messages being produced as a result of the candidates setting up their own routines (plural – one is insufficient). The requirement is for candidates to use routines. Just ticking a compulsory field option or 'must be answered' option is not writing a routine. Defining range checks, however, is equivalent to writing a routine. The entry of text into a numeric field does not count; neither does designing field types which limit data entry. The criterion requires the candidates to write their **own** validation routines.

A disturbing trend in much of the work seen was the lack of annotation by candidates. Many often failed to include a description of the task they were undertaking. For marks above 19, candidates must describe their choice of software in terms of the features required to solve the problem and compare it with an alternative piece of software. Many candidates lose marks because they give a list of features which are not required by the solution or fail to give a list of features required by the solution or, indeed, give a list of features required by the solution but are equally available in the package they are rejecting. If candidates have not specified a task they are unable to relate their choice to the task. It is apparent that many candidates have little experience of using alternative data handling packages to the one they used to create their database.

For marks in the highest ranges, candidates are expected to give reasons why they have chosen the fields included in their database but left out others. They will also need to give reasons for their choice of field types and explain their choice of field lengths. A number of Centres think that it is sufficient for candidates to list these rather than give reasons for their choice. This is not acceptable.

For the highest mark range of all the required output must be stated. This must be in terms of the format of the output as well. As one of the criteria is to comment on how easy it was to produce tables and graphs candidates must obviously stipulate these as being part of the required output and then produce this output. This must be done at the outset not as an afterthought somewhere towards the end of the work. This will usually be the output from a list of

queries which the candidate surmises they will use to test their database. Candidates must relate all the reasons for the choice of all the various features listed in the 26 to 28 mark range to this required output.

It is to be remembered by Centres that only the most gifted of students should be awarded marks in this range as it is intended to be a true discriminator for grade A/A* candidates.

Modelling

Predictions are required at every mark range above 7. Some Centres take the meaning of simple to be just indicating a general increase or decrease in variables. It is expected that even at low levels candidates will quantify these changes to a degree. For marks above 19 candidates are expected to make more complex predictions (the word simple is not used in the teachers' guide at these mark ranges). The requirement for 'Use the software to provide the answers required to solve the problem' is that predictions are made.

More Centres are now aware of what a complex model is. Centres are still using writing frames as prompt sheets for candidates. Often this leads to candidates being unable to truly explore the model. Validity of a model is also still causing problems. Candidates are required to compare the model with a real life situation in order to secure credit. Some candidates failed to design a complex model but were still awarded marks above 19. It is not sufficient to make a design and then go on to create a complex model; the original design should be complex. A number of Centres fail to understand the requirement for justifying the choice of software. Candidates should define their problem, then produce a list of software features required to solve the problem, followed by a description of their choice of software and how well it meets the required features. The description of how they created their spreadsheet should contain a number of screenshots illustrating how these features were used.

Measuring

This is a strand which is dwindling in popularity. A number of Centres submitted work for this strand but failed to comply with the requirements of the specification. Some just used one type of sensor when the specification demands a minimum of two different types of sensor. The candidates' reports must still match the specification criteria in order to obtain marks. Some ICT departments allow the science department to teach this strand and then mark the outcomes themselves although the outcomes obviously cover the science requirements more than the ICT. Centres are reminded that 18 hours should be spent on the teaching of and production of project 1b.

Control

This strand still causes some Centres some problems. The advice in the Teacher's Guide clearly identifies the need for equipment to be set up by an individual, not a team, including the setting up of two different types of sensor – not contact switches. These must all be connected by the candidate to a computer through some form of interface. The system created must be physical. Simulations or mimics are not acceptable for marks above 19. The device created must be of their own design not one that has come in kit form which tells the candidate what to do. The creation of this system must be evidenced and photographs of the stages of creation are the best way of doing this. Candidates must realise that they have to annotate their programs showing how they have used precision and what would have happened if they had not. Evaluations which refer to their use of precision are not the same thing. Finally, feedback is defined as the output of system affecting the input of a system. It is not considered to be the reaction to inputs.

2360 Project 2

General Comments

It was pleasing to note that there was a marked reduction in the number of projects being submitted in plastic wallets, ring-binders, etc. At the same time, the vast majority of markers now seem to be helping their moderator by completing the front coversheet, including the referencing of where within the work evidence for the various assessment criteria might be found.

Once again, the provision of templates proved to be an issue with some Centres. Whilst it is accepted that candidates need to be told what evidence they must include to ensure they meet the various assessment criteria, some templates may lead to work that:

- is often stilted, missing the depth of comment required to meet the criteria for the higher marks in each section. This is particularly evident in the work of very able candidates, who seem to see a sub-heading in a template as being something they can respond to by writing just a short comment,
- is often almost identical to work produced by other candidates. This is especially true where a large number of candidates in the cohort have worked on the same basic theme, which then may lead towards plagiarism,
- is so “teacher lead” that it is difficult for the moderator to accept that the work has been produced by the candidate and therefore is reflecting their true ability.

Comments on the Individual Sections

The work for this project continues to be based almost entirely on the production of a data handling system, with the vast majority of candidates using Access as the major software package. This, in itself, led to a number of problems with the work seen. A couple of the major problems were:

- candidates are too often credited with describing a problem but within the very first few lines state that they are going to create a database; such comments cannot be credited with marks for A1. Candidates often seem to have a solution in mind before they know what the problem is; this approach then leads to a complex solution rather than a complex problem. In some cases, comments made by candidates actually indicate that they had been given a database task to work on, which indicates that it was the task briefs that were at fault.
- Many candidates appear to have no experience of any other database software packages other than Access. Justification of their choice was then based on such comments as “it is the most widely used package”. Whilst this is possibly true, acceptable justification needs to be based on comments about features required by chosen system designs and those included in the packages compared and the one chosen. This is particularly difficult for candidates who know from the very start that they are going to do a major piece of work using Access.

With further reference to justification, the quality of argument was often found to be trivial, with many candidates not really having demonstrated that they were producing a system for somebody else to use. Statements here, such as “more professional”, “cheaper” or “available on the school network” really do not meet the requirements to award the marks available in the relevant sections.

As might be expected, the vast majority of the work was produced using a word processor package. However, candidates failed to use the spell-checking feature of such packages

properly and with many instances where proof-reading techniques, as a second important checking process, had simply not been employed. This was demonstrated in the work of a significant number of candidates when writing about their user, referred to these people as “costumers” rather than “customers”. The awarding of the 0 – 4 marks for communication appeared often to have been done with little regard being paid to the criteria printed in the specification.

Despite this being mentioned in a range of publications about the assessment of this module and at training, marks are still awarded to candidates where the required level of evidence for collecting information is not included in the work. Extreme examples of this see some markers awarding marks where in fact there is no evidence at all of any collection being done or where candidates have either completed a number of questionnaires themselves or handed questionnaires out to their peers and got them to fill them in. The inclusion in a candidate’s work of a number of completed questionnaires or the transcript of an interview does not necessarily mean that the awarding of marks might be considered; the relevance of the questions asked should also be checked. It was also noted that a small number of Centres appeared to have confused the requirement here to include examples of correspondence between candidate and user(s) to set up the chosen method of information collection with the letter produced as a result of using mail merge as a part of the output of a complex system. Supporting evidence was also weak in many cases; some candidates include copies of letters sent to the company but do not include evidence of a response. Template solutions, where a letter forms part of the flow and does not even get a page to itself do not readily allow the evidence for these criteria to be shown. More successful candidates tend to use scans of originals.

The choice of hardware and software should be based on the needs of the system to be produced. The comments made by many candidates about items of hardware such as digital cameras, scanners, barcode readers, etc or different operating systems, web browsers, virus checkers, etc were all too often irrelevant and did not meet the requirements to award marks. At the same time, comparisons of suites of programs, such as Microsoft Office and Open Office were also inappropriate as they failed to get down the level of comment about actual features that the system would need when being implemented. Many Centres award maximum marks in A3 & D4 when students compare two different versions of Microsoft Office, when these are, in fact, the same software. Some candidates also specify a hardware system which is not adequate for their solution; for example if they have said *hard copy is required*, then they must, amongst the other items commented on, specify a printer.

There is a need for consistency in the work produced throughout these projects. For instance, where a candidate successfully describes a complex problem, then it is reasonable to expect them to mention at least one scenario when commenting on Inputs, Processes and Outputs (A3) that demonstrates this need. Also, within the design work, there needs to be evidence that all the items commented on in the project so far have been considered; this will help to ensure that designs meet the requirement to be appropriate and that all aspects are considered.

The implementation section is often overdone; the not infrequent 100+ pages for 23% of the marks is not efficient use of resources or of candidate time. There is often unnecessary repetition of procedures and too many steps. The specification says “a competent user should be able to follow...” – such a user should be able to find and open the software. Conversely, candidates are often awarded the higher marks in Implementation when the evidence they have produced does not meet the ‘describe’ criterion. Screenshots of a completed table without the process of how to produce the table cannot be awarded marks for describing.

Report on the Units taken in June 2008

Further, moderators continue to find marks being awarded inappropriately as in previous years for:

- solutions rather than problems being discussed,
- little thought and comment being given to the things that the present system actually does for the user,
- the acceptance of designs which are either not appropriate or do not cover all the items required by the system,
- changes made during implementation (I1 & I2) which are, on inspection, changes that have already been commented on in the design process,
- transferring data (I4) to a second software package for further processing where the evidence does not support it or both marks awarded when there is only evidence of one transfer,
- thorough testing, where the candidate does a large number of tests, but does not relate this work to the comments made in A3,
- predicted results being hinted at, rather than specified in reasonable detail; many Centres awarded high marks for T2 when there were only vague statements about test results being 'as expected' or 'finding all the records that match the search criteria'.
- user guides that mention errors and how to avoid/cope with them that the operating system or chosen package produce, rather than those the candidate has built in themselves,
- evaluating the system in depth, without acceptable evidence that it has been thoroughly tested.

Grade Thresholds

General Certificate of Secondary Education
ICT A (1094/1994)
June 2008 Assessment Session

Unit Threshold Marks

	Unit	Maximum Mark	a*	a	b	c	d	e	f	g	u
2357F	Raw	60				39	34	30	26	22	0
	UMS	55				48	40	32	24	16	0
2357H	Raw	60	39	34	29	24	19	16			0
	UMS	80	72	64	56	48	40	32			0
2358	Raw	60	58	53	45	37	31	25	19	13	0
	UMS	120	108	96	84	72	60	48	36	24	0
2359F	Raw	60				29	25	21	18	15	0
	UMS	55				48	40	32	24	16	0
2359H	Raw	60	31	25	19	14	9	6			0
	UMS	80	72	64	56	48	40	32			0
2360	Raw	60	53	45	36	28	24	21	18	15	0
	UMS	120	108	96	84	72	60	48	36	24	0

Specification Aggregation Results

Overall threshold marks in UMS (i.e. after conversion of raw marks to uniform marks)

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1094	200	180	160	140	120	100	80	60	40	0

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1994	400	360	320	280	240	200	160	120	80	0

The cumulative percentage of candidates awarded each grade was as follows:

	A*	A	B	C	D	E	F	G	U	Total No. of Cands
1094	1.9	9.9	27.7	48.8	65.3	77.9	88.3	95.6	100.0	26758
1994	3.0	15.4	39.2	63.4	77.8	87.3	93.9	98.0	100.0	16017

For a description of how UMS marks are calculated see;
http://www.ocr.org.uk/exam_system/understand_ums.html

Statistics are correct at the time of publication

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

14 – 19 Qualifications (General)

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

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Facsimile: 01223 552553

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