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Full Course

Foundation Tier

General

Most candidates attempted most of the questions on the paper. There were some excellent papers showing a good breadth and depth of knowledge at this level. Those very few candidates who omitted questions or parts of questions often demonstrated a good understanding of those they attempted. Most candidates attempted the multiple choice and short answer questions with significantly greater success than those questions requiring diagrams or more extended written answers. A very few candidates made too many or two few choices in the multiple choice questions, for example, candidates made three choices when only two were required, thus reducing the maximum number of marks that could be awarded for the question.

When answering the questions on the written papers, some candidates gave the answers 'quicker', 'cheaper', 'easier', ‘neater’, 'more powerful', 'makes fewer mistakes', 'it could crash', etc. without further qualification, and credit was not given for these simplistic answers. More successful candidates explained, what is 'quicker', why it is 'quicker', what are the consequences because 'it could breakdown', etc. in relation to the context of the question. In addition, one word answers were not usually awarded a mark when a short description or explanation was required. Similarly, no marks were given for repeating the question without elaboration, and vague, repetitive or inaccurate answers. Better answers related well to the context of the question, were detailed and accurate, used appropriate technical language, and had illustrative examples. It was not uncommon for candidates to be awarded marks because they had given a good example, where marks could not be given for a weak explanation or a vague description which lacked technical accuracy. Diagrams were often poorly labelled and not well drawn.

Most candidates were appropriately entered at this level but a very few candidates were inappropriately entered, and these entries were often part of a larger entry of candidates from a centre. Inappropriately entered candidates often expressed themselves very well and were more likely to complete questions in full and gain full marks. Such candidates may have a better opportunity to fully demonstrate their knowledge and understanding, and achieve higher grades, if they are entered for an appropriately demanding tier.

Comments on specific questions:

Question 1

Overall, this question was answered correctly by most candidates although only a few candidates were awarded full marks. Part (a) was answered correctly by most candidates. In part (b)(i), the most candidates successfully imported the picture using a wide variety of techniques but relatively few were award a mark for repositioning or resizing the image. In part (b)(ii), most candidates answered correctly and in full. In part (c), most candidates knew that email addresses can be found in address books or on Web sites, but a few did not identify the possibility of using 'reply'. In part (d) most candidates showed an incomplete awareness of what would be contained in an email signature. In part (e) candidates were often aware of the reasons for zipping email attachments but did not know that these must be unzipped before they can be used.

Question 2

Most candidates knew that the software used was a spreadsheet in part (a), and in part (b) could correctly identify cells that contained text and numbers using accurate cell references. Some candidates could write down a correct formula that would work in a spreadsheet in part (b)(iii), but most were unable to use the sum function accurately in part (b)(iv). Part (c) was answered correctly by many candidates. Part (d) was answered correctly by most candidates; however, some candidates gave vague or incomplete answers to part (d)(iii). For example, some candidates believed that it was sufficient to note that one of the tasks the plumber could do with a scanner was to "scan things".

Question 3

Almost all candidates who answered (a)(i) spotted the erroneous entry; and part (a)(ii) was answered correctly by most candidates. Very few candidates answered part (a)(iii) well. Some candidates knew that a type check would detect the error in entering names but few recognised that a table look up would be necessary to ensure the Patient Names were correctly spelt. In parts (b) and (c) few candidates were awarded full marks although almost all were awarded at least 2 marks. Parts (d) and (e) were answered correctly by many candidates.

Question 4

Parts (a), (b), (c) and (d) were answered correctly by many candidates. Very few candidates showed a good knowledge of networking when answering part (e). Many candidates included only the minimum of a fileserver and three computers in their network and were awarded one mark. Very few included a printer or any other networked or local peripheral or other reasonable feature. In part (f) most candidates showed an awareness of the existence of technical and user documentation and who is likely to use them. Part (g) was well answered by many candidates.

Question 5

Many candidates were awarded full marks for part (a)(i) but a few gave too little attention to ensuring the instructions were written in an appropriate syntax. Misspellings and the inclusion of degree signs were common errors. Few candidates answered part (a)(ii) correctly and in full although most were able to draw the first two sides of the shape. Some candidates were awarded full marks in part (a)(iii) although many showed a lack of familiarity with flowcharts. Part (a)(iv) was answered correctly by many candidates. Most candidates were awarded some marks in part (b); but again the syntax of instructions was sometimes inaccurate or the instructions themselves were missing.

Question 6

Most candidates were awarded most marks in part (a); however, some candidates thought that you should write your user name and password in the front of your diary. Most candidates showed some awareness of why a new password has to be entered twice but some could not express this using appropriate technical language. In part (b)(i), most candidates realized that another student could delete the work but could not go beyond this. Part (b)(ii) was answered correctly by most candidates. In part (b)(iii), most candidates correctly identified a variety of backup media including floppy disk, memory pens or sticks, CD-RW and zip disks but a few noted only that the work should be "saved twice", without any qualification. Some candidates knew that to make the backup secure further action beyond making a copy on portable backing storage media was necessary but very few candidates clearly described a systematic arrangement to ensure the physical security of the backup. Most candidates were awarded a mark in part (c) and gave an answer which showed an understanding of why students are prevented from installing software on a school network. Most answers to part (d) recognised the practical restrictions but were often not well expressed using appropriate technical language.

Question 7

Very few candidates chose the correct answer in part (a)(i) although (a)(ii) was answered correctly by most candidates. In part (a)(iii), many candidates answered correctly although a popular incorrect answer was that as the accountant wasn't being monitored at home he need not do any work. Most candidates answered part (a)(iv) correctly. The majority of candidates answered part (b) correctly giving a good range of realistic answers, such as repetitive strain injury and photo-induced epilepsy, and showing a good awareness of how to avoid potential health hazards. Many candidates answered part (c) correctly. Very few candidates showed a clear awareness of the situation in developing countries when answering part (d). On the whole, the reasons candidates gave for difficulties accessing the Web in developing countries would have applied to anyone anywhere in the world.

Question 8

Most candidates showed an awareness of the issues and the reasons for customers' concerns when answering part (a). However, some candidates showed very little awareness of the legal framework of such activities and did not mention the provisions of the Data Protection Act or other legislation. Part (b) was answered correctly by most candidates although many answers were poorly expressed. Many candidates answered part (c) correctly and in full.

Higher Tier

General

Most candidates attempted most of the questions on the paper. There were some excellent papers showing a good breadth and depth of knowledge at this level. Those candidates who omitted questions or parts of questions often demonstrated a good understanding of those they attempted.

When answering the questions on the written papers, a few candidates gave the answers 'quicker', 'cheaper', 'easier', 'neater', 'more powerful', 'makes fewer mistakes', 'it could crash', etc. without further qualification, and credit was not given for these simplistic answers. More successful candidates explained, what is 'quicker', why it is 'quicker', what are the consequences because 'it could breakdown', etc. in relation to the context of the question. In addition, one word answers were not usually awarded a mark when a description or explanation was required. Similarly, no marks were given for repeating the question without elaboration, and vague, repetitive or inaccurate answers. Better answers related well to the context of the question, were detailed and accurate, used appropriate technical language, and had illustrative examples. It was not uncommon for candidates to be awarded marks because they had given a good example, where marks could not be given for a weak explanation or a vague description. Diagrams were sometimes poorly labelled and not well drawn.

Most candidates were appropriately entered at this level but a few candidates were inappropriately entered, and these entries were often part of a large entry from one centre. Inappropriately entered candidates often expressed themselves very poorly and were more likely to omit parts of questions. Such candidates often answered multiple choice and short answer questions with greater success and there were more of these on the foundation tier paper. Candidates have better opportunities to fully demonstrate their knowledge and understanding if they are entered for an appropriate tier. It is likely that inappropriately entered candidates will obtain lower grades as questions on the higher tier paper will be less accessible to them than questions on the lower tier paper, perhaps causing them to be awarded significantly fewer marks. Centres are urged to enter for the Foundation tier those candidates who do not express themselves with clarity in written English.

Comments on specific questions:

Question 1

In part (a)(i), most candidates were awarded marks for describing techniques for transferring the picture into the letter. Fewer candidates were awarded marks for resizing the picture, etc. In part (a)(ii), many candidates gave correct and complete answers but some candidates' answers lacked depth giving, for example, the single word 'Font' or 'Size' as an answer. Most candidates answered part (b)(i) correctly but many gave answers in part (b)(ii) that were too brief and ambiguous. In part (c) some candidates showed an incomplete awareness of what would be contained in an email signature. In part (d) many candidates were aware of the reasons for zipping email attachments and knew that these must be unzipped before they can be used.

Question 2

Most candidates answered part (a) correctly. Most candidates wrote down several correct answers in part (b). In part (c) many candidates had an understanding of the advantages of using spreadsheets in the context of the question but some could not clearly describe three distinct advantages. In part (d)(i), many candidates correctly named input devices but explanations of what they were used for were sometimes unclear. Most candidates correctly named at least two backing storage devices in part (d)(ii).

Question 3

Many candidates answered correctly in part (a)(i). Popular incorrect answers were the 'The check digit… ' and 'The Patient Number is input twice'. A few candidates ticked more than one box and were not awarded marks. In part (a)(ii), some candidates knew that a type check would detect the error in entering names but few recognised that a table look up would be necessary to ensure the Patient Names were correctly spelt. Few candidates were awarded marks in part (b). Incorrect answers often referred to possible features of a key field which are not essential; for example, 'it's the first column'. In part (c), most candidates' answers were partly correct although some candidates confused the advantages of coding with those of encryption. Many candidates answered part (d)(i) correctly and in full but were less successful at explaining why sorting might be useful in part (d)(ii). Most candidates answered part (e) correctly.

Question 4

Many candidates answered part (a) correctly but some answers were vague and lacked sufficient detail to be awarded a mark. Most candidates were awarded at least one mark in part (b) but some answers were vague and did not clearly explain the purposes of scanning both the library card and the bar code on the book. Some candidates answered part (c) correctly but many answers lacked detail. Candidates frequently described unrealistic tasks in part (d) and there were many vague answers. In part (e), most candidates included the minimum of a fileserver and three computers in their network and were awarded one mark. Some also correctly included printers, print servers, hubs and switches or other networked or local peripherals or other reasonable features. Few candidates included a barcode reader which would be needed in the context of the question. In part (f) many candidates showed an awareness of who is likely to use technical and user documentation. Most answers to part (g) described the features of a school library computer system rather than justifying the expenditure required.

Question 5

Most candidates answered part (a)(i) correctly although some gave too little attention to accurate syntax. A few answers lacked efficiency and did not use repeat. Few candidates answered part (a)(ii) correctly and in full although most were able to draw the first two sides of the shape. In part (a)(iii) many candidates were awarded full marks while others showed a lack of familiarity with flowcharts. Most candidates were awarded some marks in part (b); but again the syntax of instructions was sometimes inaccurate or the instructions themselves were missing.

Question 6

In parts (a)(i) and (ii) many candidates were awarded marks but answers often showed a lack of understanding of why passwords are used. In part (a)(iii), most candidates showed some awareness of why a new password has to be entered twice but some could not express this using appropriate technical language. In part (b)(i), few candidates could give a clear and complete answer. Most knew that the student's work would be accessible to others did not give further detail. In parts (b)(ii) and (iii), many answers lacked clarity. Most candidates knew that a backup was a second copy and many named an appropriate backing storage medium but fewer could describe procedures for systematically ensuring a secure backup. Most candidates were awarded marks in part (c) and gave an answer which showed an understanding of why students are prevented from installing software on a school network. Most answers to part (d) recognised the practical restrictions but were often not well expressed using appropriate technical language. Few candidates were able to give three distinct reasons.

Question 7

Few candidates chose the correct answer in part (a)(i) although (a)(ii) was answered correctly by most candidates. Most candidates were awarded marks in parts (a)(iii) and (iv) although some described advantages and disadvantages to others rather than the accountant. The majority of candidates answered part (b) correctly giving a good range of realistic answers, such as repetitive strain injury and photo-induced epilepsy, and showing a good awareness of how to avoid potential health hazards. Many candidates answered part (c) correctly. Many candidates showed a clear awareness of the situation in developing countries when answering part (d). However, some candidates gave reasons for difficulties accessing the Web in developing countries that would have applied to anyone anywhere in the world.

Question 8

Most candidates answered part (a) correctly and in full. Few candidates were awarded full marks in part (b). Many candidates showed some understanding of the question but answers were often poorly expressed and lacked focus and detail. Candidates' answers to part (c) often showed an understanding of the issues but lacked focus and structure. Candidates interpreted the question in different ways: some wrote about artificial devices that might replace limbs and organs; and others considered the advantages and disadvantages of robots replacing human surgeons. Both approaches were given credit. Many candidates showed an awareness of moral, ethical and religious issues but answers sometimes lacked depth. Most candidates referred to issues associated with quality and prolongation of life; and rejection and malfunction.

Short Course

Foundation Tier

General

Most candidates attempted most of the questions on the paper. There were some excellent papers showing a good breadth and depth of knowledge at this level. Those candidates who omitted questions or parts of questions often demonstrated a good understanding of those they attempted. Many candidates attempted the multiple choice questions with significantly greater success than those questions requiring diagrams or more extended written answers. However, a few candidates made too many or two few choices in the multiple choice questions, for example, candidates made three choices when only two were required, thus reducing the maximum number of marks that could be awarded for the question.

When answering the questions on the written papers, some candidates gave the answers 'quicker', 'cheaper', 'easier', ‘neater’, 'more powerful', 'makes fewer mistakes', 'it could crash', etc. without further qualification, and credit was not given for these simplistic answers. More successful candidates explained, what is 'quicker', why it is 'quicker', what are the consequences because 'it could breakdown', etc. in relation to the context of the question. In addition, one word answers were not usually awarded a mark when a short description or explanation was required. Similarly, no marks were given for repeating the question without elaboration, and vague, repetitive or inaccurate answers. Better answers related well to the context of the question, were detailed and accurate, used appropriate technical language, and had illustrative examples. It was not uncommon for candidates to be awarded marks because they had given a good example, where marks could not be given for a weak explanation or a vague description. Diagrams were often poorly labelled, not well drawn and did not relate sufficiently to the context of the question.

Most candidates were appropriately entered at this level but a few candidates were inappropriately entered, and these entries were often part of a larger entry of candidates from a centre. Inappropriately entered candidates often expressed themselves relatively well and were more likely to complete questions in full and gain full marks. Candidates have better opportunities to fully demonstrate their knowledge and understanding, and achieve higher grades, if they are entered for an appropriately demanding tier.

Comments on specific questions:

Question 1

Overall, this question was answered correctly by most candidates although only a few candidates were awarded full marks. Part (a) was answered correctly by most candidates. In part (b) the most candidates successfully imported the picture using a wide variety of techniques but relatively few were award a mark for repositioning or resizing the image. In part (c), most candidates knew that email addresses can be found in address books or on Web sites, but a few did not identify the possibility of using ‘reply’.

Question 2

Most candidates knew that the software used was a spreadsheet in part (a), and in part (b) could correctly identify a cell that contained text using an accurate cell references, but only a few could write down a formula that would work in a spreadsheet. Part (c) was answered correctly by most candidates; however, some candidates gave vague or incomplete answers to part (c)(iii). For example, some candidates believed that it was sufficient to note that one of the tasks the plumber could do with a scanner was to "scan things".

Question 3

Almost all candidates who answered (a)(i) spotted the erroneous entry; and part (a)(ii) was answered correctly by most candidates. In parts (b) and (c) few candidates were awarded full marks although almost all were awarded at least 2 marks. Part (d) was answered correctly by many candidates.

Question 4

Parts (a) and (b) were answered correctly by many candidates. Very few candidates showed a good knowledge of networking when answering part (c). Many candidates included only the minimum of a fileserver and three computers in their network and were awarded one mark. Very few included a printer or any other networked or local peripheral or other reasonable feature. In part (d) most candidates showed an awareness of the existence of technical and user documentation and who is likely to use them.

Question 5

Many candidates were awarded full marks for part (a) but a few gave too little attention to ensuring the instructions were written in an appropriate syntax. Misspellings and the inclusion of degree signs were common errors. Some candidates were awarded full marks in part (b) although many showed a lack of familiarity with flowcharts.

Question 6

Most candidates were awarded most marks in part (a); however, some candidates thought that you should write your user name and password in the front of your diary. In part (b)(i), most candidates realized that another student could delete the work but could not go beyond this. Part (b)(ii) was answered correctly by most candidates. In part (b)(iii), most candidates correctly identified a variety of backup media including floppy disk, memory pens or sticks, CD-RW and zip disks but a few noted only that the work should be "saved twice", without any qualification. Most candidates were awarded a mark in part (c) and gave an answer which showed an understanding of why students are prevented from installing software on a school network.

Question 7

Very few candidates chose the correct answer in part (a)(i) although (a)(ii) was answered correctly by most candidates. In part (a)(iii), many candidates answered correctly although a popular incorrect answer was that as the accountant was not being monitored at home he need not do any work. The majority of candidates answered part (b) correctly giving a good range of realistic answers, such as repetitive strain injury and photo-induced epilepsy, and showing a good awareness of how to avoid potential health hazards.

Question 8

Most candidates showed an awareness of the issues and the reasons for customers' concerns when answering part (a). However, some candidates showed very little awareness of the legal framework of such activities and did not mention the provisions of the Data Protection Act or other legislation. Part (b) was answered correctly by most candidates although many answers were poorly expressed. Many candidates answered part (c) correctly and in full.

Higher Tier

General

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Most candidates were appropriately entered at this level but a few candidates were inappropriately entered, and these entries were often part of a large entry from one centre. Inappropriately entered candidates often expressed themselves poorly and were more likely to omit questions. Such candidates often answered multiple choice questions and short answer questions with greater success. Candidates have better opportunities to fully demonstrate their knowledge and understanding if they are entered for an appropriate tier. It is likely that inappropriately entered candidates will obtain lower grades as questions on the higher tier paper will be less accessible to them than questions on the lower tier paper, perhaps causing them to be awarded significantly fewer marks. Centres are urged to enter for the Foundation tier those candidates who do not express themselves with clarity in written English.

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In part (a), most candidates were awarded marks for describing techniques for transferring the picture into the letter. Fewer candidates were awarded marks for resizing the picture, etc. In part (b), many candidates gave correct and complete answers but some candidates' answers lacked depth giving, for example, the single word 'Font' or 'Size' as an answer. Most candidates answered part (c)(i) correctly but many gave answers in part (c)(ii) that were too brief and ambiguous.

Question 2

Most candidates answered part (a) correctly. Most candidates wrote down at least one correct answer in part (b). In part (c)(i), many candidates correctly named input devices but explanations of what they were used for were sometimes unclear. Most candidates correctly named a backing storage device in part (c)(ii).

Question 3

Many candidates answered correctly in part (a). Popular incorrect answers were the 'The check digit… ' and 'The Patient Number is input twice'. A few candidates ticked more than one box and were not awarded marks. Few candidates were awarded marks in part (b). Incorrect answers often referred to possible features of a key field which are not essential; for example, 'it's the first column'. In part (c), most candidates' answers were partly correct although some candidates confused the advantages of coding with those of encryption. Many candidates answered part (d) correctly and in full.

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Question 5

Most candidates answered part (a) correctly although some gave too little attention to accurate syntax. A few answers lacked efficiency and did not use repeat. In part (b) many candidates were awarded full marks while others showed a lack of familiarity with flowcharts.

Question 6

In part (a) many candidates were awarded marks but answers often showed a lack of understanding of why passwords are used. In part (b)(i), few candidates could give a clear and complete answer. Most knew that the student's work would be accessible to others did not give further detail. In parts (b)(ii) and (iii), many answers lacked clarity. Most candidates knew that a backup was a second copy and many named an appropriate backing storage medium but fewer could describe procedures for systematically ensuring a secure backup. Most candidates were awarded a mark in part (c) and gave an answer which showed an understanding of why students are prevented from installing software on a school network. Most answers to part (d) recognised the practical restrictions but were often not well expressed using appropriate technical language.

Question 7

Few candidates chose the correct answer in part (a)(i) although (a)(ii) was answered correctly by most candidates. The majority of candidates answered part (b) correctly giving a good range of realistic answers, such as repetitive strain injury and photo-induced epilepsy, and showing a good awareness of how to avoid potential health hazards. Many candidates showed a clear awareness of the situation in developing countries when answering part (c). However, some candidates gave reasons for difficulties accessing the Web in developing countries that would have applied to anyone anywhere in the world.

Question 8

Most candidates answered part (a) correctly and in full. Candidates' answers to part (b) often showed an understanding of the issues but lacked focus and structure. Candidates interpreted the question in different ways: some wrote about artificial devices that might replace limbs and organs; and others considered the advantages and disadvantages of robots replacing human surgeons. Both approaches were given credit. Many candidates showed an awareness of moral, ethical and religious issues but answers sometimes lacked depth. Most candidates referred to issues associated with quality and prolongation of life; and rejection and malfunction.

Coursework

General

The majority of centres marked candidates' work to a reasonable degree of accuracy. However, there was an increase in the number of centres where marking was less than the required standard.

The quality and quantity of the coursework submitted was varied but was generally well presented, perhaps due to the increasing expertise of candidates in the use of word processing and DTP software. There were, however, still too many candidates producing too much repetitive printed output. This was often examples of administering questionnaires, multiple printouts of databases and searches, or a multitude of graphs illustrating the same data. Candidates and centres should note that quantity is not necessarily a sign of quality.

Tasks addressing the theme of *Communicating and Handling Information* were on the whole appropriate, although there were a number of candidates who simply produced newsletters or brochures which were not developed in line with the marking criteria. Some candidates submitted coursework based on producing a website and a few of these were no more than on-line newsletters or brochures which failed to make use of the available technology.

The theme of *Controlling, Measuring and Modelling* was mainly covered with submissions based upon spreadsheets. It is still the case that too many of the spreadsheet based tasks that were submitted within this theme were no more than data handling tasks. Modelling requires the use of functions and formulae that can alter the outputs when the input variables are changed and the production of "what if" scenarios. Candidates cannot be awarded the full range of marks within this theme if they do not produce a modelling task. For candidates who submitted work for the Full Course (3522), this could be a particular difficulty as they cannot fully meet the requirements of the specification in that the coursework must contain two tasks drawn from each of the specified themes. In addition, more candidates submitted control tasks. However, too many of these were no more than a class exercise repeated in greater detail and as a result little original work was done by these candidates.

Coursework tasks that were awarded high marks were:

- within the capabilities of the candidate;
- kept to the point of the task and were not distracted by sub-tasks that were irrelevant to the solution of the problem being attempted;
- enabled candidates to demonstrate the full range of their skills, knowledge and understanding;
- were designed for others to use;
- had evidence, and annotation by markers, to support the marks awarded;

Coursework tasks should allow candidates to demonstrate breadth and depth in their ICT capability by addressing an identifiable system that can be used by others. Most centres allowed candidates a free choice for their tasks, although these were vetted for suitability by the teacher. This allowed candidates to demonstrate their strengths and knowledge of the tasks and to produce much more interesting work, and many of these candidates showed

pride and ownership of their work. This approach encouraged candidates to document their work more thoroughly, and these candidates generally scored higher marks. However, a few centres provided a very narrow range of tasks that were too similar. These were too structured and directed, and allowed little differentiation as the resulting work from candidates was very stereotyped.

Appropriateness of tasks

Most candidates were given the opportunity by centres to address all the coursework requirements. Some common approaches that did not allow candidates to address all the marking criteria included:

- tasks that were too structured and directed, giving candidates little chance to make informed decisions of their own;
- tasks that were based upon spreadsheets and were supposed to be modelling but contained no facilities to be able to meaningfully change variables and were effectively data handling tasks;
- tasks that were designed to solve the problem for the candidate, rather than providing a context for the candidate to construct an ICT system for others to use;
- tasks that required the candidate to comment upon existing systems rather than developing their own;
- tasks that merely produced output for no apparent reason apart from the fact that the software was able to produce that output.

Standardisation at the centre

Most centres assessed candidates consistently in line with the marking criteria, although some were too generous in awarding marks to their candidates. Where more than one teacher marks candidates' coursework at a centre there should be a standardisation meeting at the centre where the consistency of marking throughout the centre is ensured. Where this had been done it was clearly evident but where it was not done inconsistent marking often caused the whole of a centre's marks to be adjusted.

Provision of information for the Moderator

There was a wide divergence between the amount of background information provided by centres. Good centres provided moderators with:

- details of the introduction to the task, including copies of any task sheets and supporting materials;
- a task cover sheet on each task which clearly stated the theme the task addressed;
- annotation of the candidates work using the references for each criterion as indicated on the CMS and an explanation of the rationale for the award of marks.

Moderation was difficult where there was a lack of annotation. This was especially true when the evidence did not appear to support the award of a mark. Centres are strongly encouraged to annotate their work since it:

- is a requirement of the specification and the *QCA Code of Practice*;
- provides guidance and feedback to candidates;
- provides justification for the award of marks;
- is essential for internal moderation;
- assists the external moderation process.

Awarding of Marks

Marks can only be awarded when there is evidence to support this. A few centres awarded full marks based on trivial explanations and little evidence. The criteria for the award of marks are set out within the specification and the support materials and there is detailed explanation of what does or does not warrant credit.

Points of concern in relation to the individual assessment criteria

The major points of concern are discussed in detail below. Many of these points have been mentioned in previous year's reports.

Candidates should be encouraged to adopt a systems analysis approach to their work and design a system that could be used by a third party and that meets a defined and identifiable need. Candidates who did not employ this approach tended to gain lower marks for many of the marking criteria.

Description of the task to be attempted

Too many candidates described the solution rather than the problem, e.g.; "I am going to design a database (or spreadsheet, etc.) which will ….". This often meant that the analysis and design were very superficial and the evaluation criteria were not clear.

Analysis and Specification Sections

This area of candidates' work was generally well done. Even so, some candidates produced clear descriptions of the task but failed to develop this into a proper specification for the solution. Many had not thought through the system and did not see beyond their use of a database or spreadsheet and hence had difficulty in formulating success criteria that might be applied to their solution. Instead they gave only vague aims rather than measurable objectives for its success. Vagueness here also hindered candidates when they later produced their evaluation.

In a few centres, candidates included too many copies of questionnaires that had been completed or too many pages from magazines they had investigated. Better marks might be achieved by including one or two examples and a summary of the findings so that candidates could spend more time developing their specification.

Candidates who were awarded high marks looked at possible alternative solutions to their tasks and then selected the most appropriate method, giving reasons for the rejection of some methods and the acceptance of others.

Many candidates produced good specifications that were not then referred to within the evaluation section.

Design of solution

In this section, the candidate should outline the solution of the whole task. The design of data collection forms, file structures, etc. should be done at a later stage of the report. The candidate should identify the various sub-tasks to be done in order to solve the problem, and should look at the order in which they should be done so that the problem is solved in a logical and systematic manner.
Candidates who provided a structured and logical description of their solution to the problem in a variety of ways tended to be awarded higher marks. Good candidates included detailed and annotated flowcharts, systems diagrams and/or algorithms accompanied by a description of the approach taken to the solution of the task.

Several candidates produced a flowchart with no explanation. In some cases, the flowchart told little, if anything, about how the problem was to be solved, or was not apparently relevant to the task being undertaken. Some candidates included generic flowcharts that appeared to be copied from text books or elsewhere, and which were not adapted to the task being undertaken. Candidates could improve their work by clearly stating their choices and justifying the methods they have chosen. Few candidates provided evidence that they had thought about how data would flow through their system once it was working, perhaps because they could not visualize their system in use beyond the classroom. Many appeared to believe, for example, that the setting up of a database was the end of the development process.

Implementation

Justification of the decisions made by candidates when implementing their solutions is a strong theme running through these sections of the coursework marking scheme. Training materials are available from AQA indicating the expectations for the level of justification required. A few centres awarded marks where no evidence or only trivial justification was provided.

Resources for hardware and software

If a candidate adopts a system design approach to solving the given task for a 'third person' then the marking criteria become easier to address. Where candidates tried to solve a problem for themselves (for example cataloguing their CD collection) they often failed to look at a variety of hardware and software, and decide which would be suitable for their task. They only looked at what they had at their disposal.

In these sections the candidates are required to state the minimum resources required to run the proposed system. For example, the minimum backing storage capacity, the minimum speed of processor, or the type of software package to be used, and explain their choices. Candidates should justify the choice of one item of hardware or piece of software instead of others. Many candidates failed to give satisfactory justification for their choices and provided only a list of the software and hardware used. Some candidates made statements such as "I will use a particular software package because it is the only package we have" or "because it does everything I need". Even if that is the case, candidates should explain their requirements and how their choices will meet them. A few candidates from some centres included what appeared to be a shared reference sheet which had not been developed further, and these were not awarded marks. Some candidates simply listed what software and hardware they had used to produce their work instead of looking at what was needed to run the ICT system that they were developing. This section might be improved if candidates identified the system requirements in the analysis/design phase and then matched their choice of resources to these requirements.

Data capture & input

Some excellent work was submitted in this section that included both data capture forms and data entry screens but a few candidates confused questionnaires prepared as part of the investigation with the data capture forms required in E(iii), not realising that this should be part of the implementation of the solution rather than the investigation.

Many candidates did not provide an explanation as to how data capture forms and data entry screens satisfied the needs of the system, or any indication that these had been designed with regard to clarity, ease of filling in, and ease of transfer to a database. In these circumstances, it is not easy to determine if candidates had designed the form themselves or used a template or wizard. In some cases, justification was inferred because the data capture form or data entry screen matched the record structure of the database whereas the candidates should make this link explicit.

Only a few candidates gave much thought to data entry when designing spreadsheets. Data entry here could be improved by using features such as comments or even simply highlighting the cells which required data input.

Data validation & verification

When this section was attempted it was well done; however, a few candidates felt that checking work by eye was sufficient and they ignored the validation checks possible in the software being used. Some centres appeared to confuse setting field lengths and using a length check as validation (not realising that the former would merely truncate the data rather than producing an error message). Again, this was less well done with spreadsheets. Most spreadsheet tasks were carried out using Excel which provides a variety of validation techniques but if the software being used does not have the facility for automatic validation, candidates should be encouraged to discuss what checks would be desirable.

Output

This was section was well done by most candidates, particularly with databases where candidates designed reports, mail merges and labels. However, despite the guidance in the support materials, some centres gave marks for simply producing a printout without any attempt to design specific formats. Candidates' work in this section could have been improved by asking them to annotate their printouts to explain how these related to their solution. With modelling tasks, where spreadsheets were used, many candidates did not format the spreadsheet differently from its default settings. Graphical output was often produced without any indication as to why a particular type of graph had been produced, or any reasons why it was used as opposed to another type of graph. Often a plethora of graphs were submitted without justification apparently because the software being used was able to produce them.

Testing

Many candidates recognised the need to test their systems systematically, but some produced only typical printouts from their system as evidence that it functioned correctly. The simple production of output is not sufficient grounds to be awarded marks under this section. Candidates should be encouraged to produce a systematic strategy for testing their solution using valid and invalid data and where the outcome is known so that problems with their system can be identified and corrected. They should include the evidence that this has been done. Candidates who tested their system by letting their friends use it, or who included statements from teachers that they had seen the system working, but did not include evidence, were awarded few marks.

Many candidates included in this section the testing of their validation techniques. This is acceptable but candidates should realise that this is only a part of a testing strategy and is not in itself evidence of a comprehensive strategy.

Documentation

Many candidates scored well in this section, particularly where they produced manuals in booklet form, as this section requires that there is separate and clearly identifiable User documentation and Technical documentation. It is important to take into account that the system has been designed for others to use and will possibly be used by strangers. Consequently, instructions for the use of the system must be comprehensive. Those few candidates who copied the software manual were awarded few marks.

Candidates who did not develop an ICT system for others to use were often awarded few marks in this section.

Evaluation

A failure to specify suitable performance criteria in the analysis and a lack of a comprehensive, planned testing strategy, limits the ability of many candidates to produce good evaluations. Only those candidates who carefully referred to their performance criteria, and possible future developments, were awarded high marks in this section. Fewer candidates appeared to believe that evaluation of the ICT system they produced involved sentiments such as "I enjoyed the work".

Communication within the report

Many candidates were rewarded for the clarity of their presentations, and spelling, punctuation and grammar were of a good standard but some candidates do not use spelling checkers effectively. This section was accurately marked although a few centres were too harsh.

Administration

Most centres submitted candidates' work by the published deadlines, although some centres did not and as a result delayed the moderation process. It is possible that this could result in candidates not receiving their grades on the published date.

Most centres completed the Candidate Record Forms (CRF) to a high standard which greatly assisted the moderation process. However, centres must be careful to avoid arithmetic and transcription errors when transferring marks to the CRF and to use the correct and current CRF.

A few centres did not include their Centre Declaration Sheet, to indicate that internal moderation had taken place.

Most centres sent a correct sample to the moderator as indicated in the AQA regulations; however, the sampling procedure was problematic for a few centres. It was a great help in the moderation process when centres provided the moderator with a rank order list indicating those candidates whose work had been submitted.

Candidates' work should be securely bound using treasury tags, and candidates should be discouraged from using plastic wallets and paper clips. Moderators reported that candidates' use of plastic wallets created problems, in that some candidates put too many pieces of paper into a single wallet. This caused moderators to spend an excessive amount of time removing pieces of paper from and replacing them into plastic wallets. Paperclips are not sufficiently secure and when coursework is taken out of postage sacks it often comes apart.

The two tasks submitted by candidates should be clearly marked as to which theme they address and pages should be numbered.

Mark Ranges and Award of Grades

Full Course

Foundation tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3522/F	120	120	84.7	13.4
3522/C	80	180	68.4	14.7
Foundation tier overall 3522	--	300	153.2	40.1

		Max. mark	C	D	E	F	G
3522/F boundary mark	raw	120	87	74	61	49	37
	scaled	120	87	74	61	49	37
3522C boundary mark	raw	80	42	34	26	18	10
	scaled	180	95	77	59	41	23
Foundation tier scaled boundary mark		300	172	144	117	90	63

Higher tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3522/H	120	120	78.4	12.9
3522C	80	180	117.9	16.2
Higher tier overall 3522	--	300	195.4	44.5

		Max. mark	A*	A	B	C	D	allowed E
3522/H boundary mark	raw	120	99	84	69	55	38	-
	scaled	120	99	84	69	55	38	-
3522/C boundary mark	raw	80	72	62	52	42	34	-
	scaled	180	162	140	117	95	77	-
Higher tier scaled boundary mark		300	251	217	183	150	115	97

Provisional statistics for the award

Foundation tier (2393 candidates)

	C	D	E	F	G
Cumulative %	36.4	61.0	79.7	93.5	98.8

Higher tier (4976 candidates)

	A*	A	B	C	D	allowed E
Cumulative %	12.0	35.3	64.6	84.7	95.2	97.7

Overall (candidates)

	A*	A	B	C	D	E	F	G
Cumulative %	7.3	23.5	43.0	68.6	83.7	91.7	96.3	98.0

Short Course

Foundation tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3528/F	60	60	40.4	7.8
3528/C	40	90	28.3	6.9
Foundation tier overall 3528	--	150	68.9	19.5

		Max. mark	C	D	E	F	G
3528/F boundary mark	raw	60	44	38	32	27	22
	scaled	60	44	38	32	27	22
3528/C boundary mark	raw	40	21	17	13	9	5
	scaled	90	47	38	29	20	11
Foundation tier scaled boundary mark		150	84	71	59	47	35

Higher tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3528/H	60	60	40.4	6.8
3528/C	40	90	53.8	8.1
Higher tier overall 3528	--	150	94.2	22.2

		Max. mark	A*	A	B	C	D	allowed E
3528/H boundary mark	raw	60	54	47	40	34	22	-
	scaled	60	54	47	40	34	22	-
3528/C boundary mark	raw	40	36	31	26	21	17	-
	scaled	90	81	70	59	47	38	-
Higher tier scaled boundary mark		150	131	114	97	81	60	49

Provisional statistics for the award

Foundation tier (3998 candidates)

	C	D	E	F	G
Cumulative %	24.6	46.1	67.8	86.9	97.2

Higher tier (3576 candidates)

	A*	A	B	C	D	allowed E
Cumulative %	4.3	19.8	48.0	73.7	93.2	97.3

Overall (7574 candidates)

	A*	A	B	C	D	E	F	G
Cumulative %	2.1	9.8	23.8	48.9	69.4	82.4	92.1	98.3

Definitions

Boundary Mark: the minimum (scaled) mark required by a candidate to qualify for a given grade. Although component grade boundaries are provided, these are advisory. Candidates' final grades depend only on their total marks for the subject.

Mean Mark: is the sum of all candidates' marks divided by the number of candidates. In order to compare mean marks for different components, the mean mark (scaled) should be expressed as a percentage of the maximum mark (scaled).

Standard Deviation: a measure of the spread of candidates' marks. In most components, approximately two-thirds of all candidates lie in a range of plus or minus one standard deviation from the mean, and approximately 95% of all candidates lie in a range of plus or minus two standard deviations from the mean. In order to compare the standard deviations for different components, the standard deviation (scaled) should be expressed as a percentage of the maximum mark (scaled).