

General Certificate of Secondary Education

Information and Communication Technology 3522/3528

Specification B

Report on the Examination

2006 examination - June series

3522 Full Course

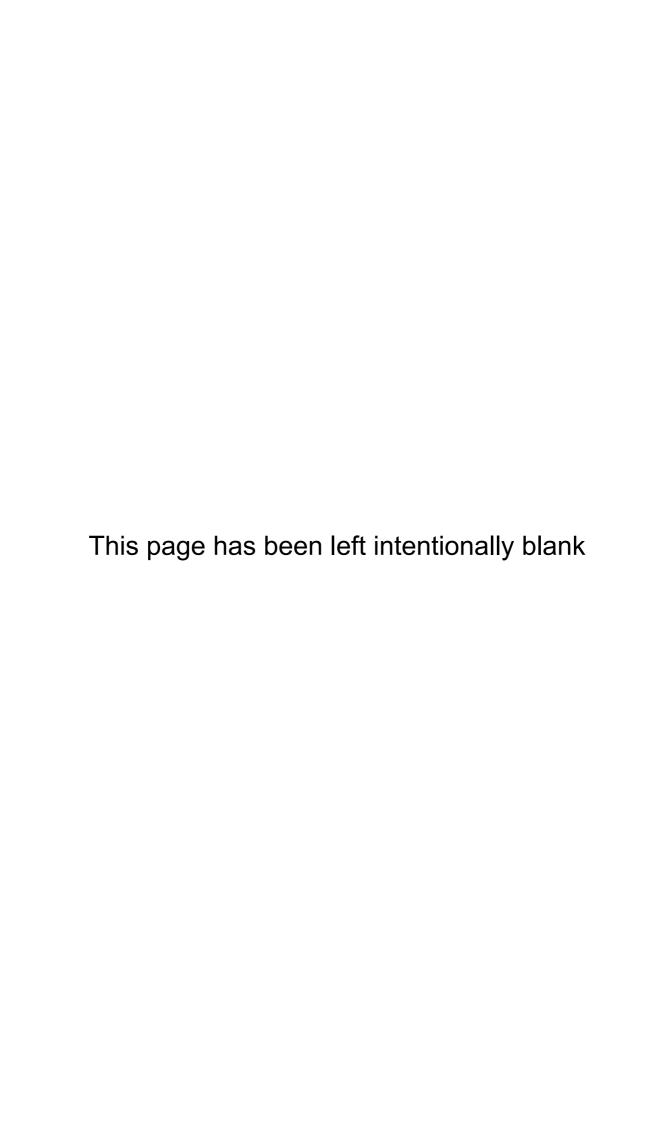
■ 3528 Short Course

Further copies of this Report on the Examination are available to download from the AQA Website: www.aqa.org.uk
Copyright © 2006 AQA and its licensors. All rights reserved.
COPYRIGHT AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.
Set and published by the Assessment and Qualifications Alliance.
The Assessment and Qualifications Alliance (AQA) is a company limited by guarantee registered in England and Wales 3644723 and a registered charity number 1073334. Registered address AQA, Devas Street, Manchester. M15 6EX. **Dr Michael Cresswell Director General.**

Contents

Full	Course
------	--------

3522/F	Foundation Tier	5
3522/H	Higher Tier	7
Short Co	purse	
3528/F	Foundation Tier	12
3528/H	Higher Tier	14
Coursewo	ork	
3522/C and	nd 3528/C Full and Short Course Coursework	17
Maula D		24
Mark Rang	ges and Award of Grades	24



Full Course

Foundation Tier

General

Most candidates attempted the majority 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 small number of 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. Where marks could not be given for a weak explanation or a vague description which lacked technical accuracy, it was not uncommon for candidates to be awarded marks because they had given a good example. 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.

The marking of the Foundation paper was computer based (e-marking). Whole written scripts are scanned and saved in electronic form, and each clip (subsection of a question) is marked separately. Each clip is marked in one of three categories: auto, general and expert. Auto marking is particularly appropriate for multiple choice questions; general marking for short answer questions and diagrams requiring a straight forward response; and expert marking for more complex and extended answers. At the end of the marking period an audit of the e-marking process was carried out to ensure its accuracy. As a result of the e-marking process, item level analysis of candidates' responses is available. The comments on specific questions are grounded in the judgement of the Principal Examiner; however, these are underpinned by reliable and accurate statistics.

Question 1

Most candidates answered 1(a)(i), (a)(ii) and (c) correctly and in full. In 1(a)(ii), a very few candidates showed little awareness of spelling checkers and suggested that the document should be rewritten. Most candidates answered 1(a)(iii) correctly but some believed that grammar checks and centring would be more appropriate than using bullets. Most candidates were awarded two marks on 1(a)(iv); popular

incorrect answers were the use of a spelling checker to distinguish between 'there' and 'their' and the use of the tab key to centre a heading. Most candidates were awarded at least one mark on 1(b); CD-ROM was a common incorrect answer. Many candidates answered 1(d) correctly although many incorrectly changed the font to 'Arial font' rather than 'Arial' as required.

Question 2

Most candidates answered the majority, but not all, sections of the question correctly. Popular incorrect answers were: 2(a), some candidates believed a modem was an input device; 2(b), some believed a sensor was an output device; and in 2(d)(i), some believed it was appropriate to keep all your passwords on a PDA. In 2(c), a range of incorrect answers was selected. In 2(d)(ii), some candidates' answers repeated the question and were not awarded marks. Other answers were not sufficiently specific to be awarded a mark; for example, 'store data'. In 2(d)(iii), many candidates correctly identified the risks due to personal data falling into the wrong hands if the device was lost or stolen.

Question 3

Most candidates answered most but not all sections of the question correctly. Popular incorrect answers were: 3(a)(ii), 'allow text less than 4 characters in length'; and in 3(d), 'a lesson on percentages so that the mechanic can calculate VAT'. In 3(b), incorrect answers were very varied and many did not give a cell reference as required. Most candidates were awarded 1 or 2 marks in 3(e)(i). Some candidates answered 3(e)(ii), correctly, and these often identified delivery times and costs from overseas vendors as reasons. Incorrect answers were frequently vague. In 3(f), very few candidates could clearly express the limitations of the coding scheme although some noted that it was not possible to know whether a customer had paid or not if they paid after four weeks.

Question 4

Many candidates answered most but not all sections of the question correctly. Most candidates answered 4(a)(i) correctly. In 4(a)(ii), most candidates were awarded 2 or 3 marks, and a popular incorrect answer was 'the train is going to Dent'. In 4(b)(i), a few candidates believed that presentation software was the most appropriate to use to produce a poster. 4(b)(ii) was not well answered with many candidates giving vague answers such as; "DTP is for designing posters and word processors are not" and these were not awarded marks. Many candidates stated that some features were unique to DTP when they are common to both DTP and wordprocessors. For example, many thought that only DTP allowed the use of clipart or coloured fonts. Most candidates answered 4(d) correctly and a wide range of correct answers was given in 4(d)(ii). "Hard disk" was a very common answer which was awarded a mark when candidates made it clear that this must be portable. Many candidates did not distinguish between CD-R and CD-ROM.

Question 5

Most candidates answered 5(a) and 5(b) correctly. In 5(a), the most popular incorrect answer was 'the driver's age'. In 5(c), few candidates showed an understanding of questionnaire design and the need for data to be captured in a manner that facilitates input to a computer. The use of character boxes or tick boxes was uncommon. A very small number of candidates provided an informative title and/or explanation, and even fewer provided for the questionnaire to be signed and dated. Questionnaires often asked for irrelevant information. Most candidates answered 5(d), 5(e) and 5(f) correctly. Some candidates answered 5(g) in full but very few gave reasons relating to issues such as scale of usage, security and cost. Many candidates gave reasons that noted only that a piece of paper could be easily lost and provided vague reasons related to the differences in editing the handwritten or database versions. Very few candidates provided valid and well explained comparisons of the use of one system rather than the other.

Question 6

Many candidates answered most but not all sections of the question correctly. In 6(a), the most popular incorrect answer was 'the ICT system adds one to the total when a person leaves'. In 6(b), many candidates answered correctly. Some candidates were awarded full marks in 6(c)(i), but many believed that employees entering and leaving the stadium several times would lead to the ICT system counting attendance inaccurately. In 6(c)(ii), the most popular incorrect test was 'record the exact time each person enters the stadium'. 6(d)(i) was answered correctly by most candidates but some could give no reason for doing this search in 6(d)(ii). 6(d)(iii), 6(d)(v) and 6(d)(v) were correctly answered by many candidates. Many candidates answered 6(d)(iv) correctly but many correct answers were poorly expressed.

Question 7

Many candidates were awarded two or three marks in 7(a)(i). The most popular incorrect answer was 'remove parking restrictions on the main road so that it is easier to park. 7(a)(ii) was well answered by most candidates. A wide variety of other security precautions were chosen, with coded entry locks, grilles on windows, security or CCTV cameras, locking equipment to desks, and fitting alarms to either the room or the equipment being the most common correct answers. Candidates who answered 'cameras' without further qualification were not awarded a mark. Several candidates suggested providing security guards which was specifically excluded in the question. Most candidates were awarded 2 or 3 marks in 7(b), and the most popular incorrect suggestion for a security precaution to protect software and data was 'make sure there is always a security guard in the foyer. Few candidates showed a good understanding of network topology in 7(c) although many were awarded marks for producing an outline of a star network with a printer and Internet link. Very few candidates indicated that the network was wireless. Most candidates did not demonstrate a secure understanding of software licensing in 7(d).

Question 8

Most candidates attempted this question but many had difficulty applying and extending current knowledge to understanding new technology and its effects. Most candidates were awarded at least one mark in 8(a)(i) and 8(a)(ii). In 8(a)(ii) many answers were vague and many candidates mistakenly believed that no shopping at all would be required and that people who ordered on-line were necessarily lazy and would get fat. In 8(a)(iii) few candidates described specific effects and related these to the context. Most answers were generic or unconvincing.

A few candidates answered 8(a)(iv) in full and expressed themselves clearly. Many candidates understood that unauthorised access could be a problem, but few went beyond this. Many candidates assumed that to have internet access each appliance must be a PC. Most candidates attempted 8(b) and most were awarded at least one mark. Candidates demonstrated a good understanding of on line shopping, and to a more limited extent on line banking, and they were aware of the advantages and disadvantages. However, many answers were vague. For example, some candidates stated that 'someone might get hold of your account details' without recognising that this could be beneficial unless a hacker or criminal was involved. A few candidates stated that one advantage was the ability to withdraw cash on line.

Higher Tier

General

Most candidates attempted the majority 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 very few candidates were inappropriately entered, and these entries were often part of a large entry from one centre. Although there was generally improved literacy and many answers were better structured, 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.

For the first time, the Higher paper was marked on line (e-marking). Traditional marking is a well established process and is of whole written scripts. These are distributed to examiners by post and each paper is marked by one examiner. The accuracy of the marking of examiners is assured as team leaders second mark samples of each examiner's marked scripts, and the Principal Examiner second marks samples of each team leader's marked scripts.

An initial e-marking pilot had been done, and GCSE ICT Foundation papers were e-marked in 2005. Emarking requires re-organisation of the marking process. The whole written scripts are scanned and saved in electronic form, and each clip (subsection of a question) is marked separately. Each clip is marked in one of three categories: auto, general and expert. Auto marking is particularly appropriate for multiple choice questions; general marking for short answer questions and diagrams requiring a straight forward response; and expert marking for more complex and extended answers. The auto marking is done under the direct supervision of the Principal Examiner. For the general marking, clips are distributed electronically to a team working together at a marking centre, and they mark all the responses for one clip at a time. The marking of these teams is standardized by the Principal Examiner, and on each occasion clips are marked, examiners have to demonstrate the accuracy of their marking by re-marking clips that have been pre-marked by the Principal Examiner (seeds). Any uncertainties during marking are referred direct to the Principal Examiner. For the expert marking, the items are distributed electronically to examiners working in their own homes. These examiners are recruited from the pool of examiners who marked whole scripts in previous years, and their marking is standardized by the Principal Examiner and team leaders by the traditional standardisation process. Even so, on each occasion clips are marked, examiners have to demonstrate the accuracy of their marking by marking seeds. Any uncertainties during marking are referred direct to team leaders. At the end of the marking period an audit of the e-marking process is carried out.

The Chief Examiner is convinced that the e-marking process ensures that candidates' scripts are accurately marked. As a result of the e-marking process, item level analysis of candidates' responses is possible. The comments on specific questions below are grounded in the judgement of the Principal Examiner; however, these are now underpinned by reliable and accurate statistics.

Question 1

Many candidates answered most but not all sections of the question correctly. In 1(a)(i), some candidates explained how to activate the spelling checker not realising that the spelling check had already been done, and a very few candidates suggested that the document should be rewritten which is inefficient. Most candidates were awarded marks in 1(a)(ii)., although several described features unrelated to the lay out of the second sentence, such as, font size, style or colour changes. Most candidates were awarded at least one mark on 1(b); CD-ROM was a common incorrect answer. Most candidates answered 1(c)(i) correctly. In 1(c)(ii), many candidates could describe a similarity but some answers were unqualified; for example, 'both paste' was not awarded a mark. Descriptions of the difference often stated an outcome of method 1 or method 2 without comparison. For example, 'copy leaves the bar chart in the spreadsheet' was not awarded a mark unless it was explained that 'cut does not leave the bar chart in the spreadsheet'. Many candidates answered 1(d) correctly although some incorrectly changed the font to 'Arial font' rather than 'Arial' as required, and a few incorrectly failed to repeat the exact spelling used for colour in .color = wdColourBlue.

Question 2

Most candidates answered 2(a)(i) correctly. A popular incorrect answer was 'modem'. Most candidates answered 2(a)(ii) and 2(b) correctly. Most candidates answered 2(c)(i) correctly; the most popular incorrect answer was 'PDAs usually cost more to buy than desktop computers'. Most candidates could describe another feature of a PDA in cii. Most candidates answered 2(d)(i) correctly; the most popular incorrect answer was 'To save a folder containing 100 Gbytes of photographic images'. Many candidates could describe other uses of a PDA in 2(d)(ii); however, some candidates' answers repeated the question and were not awarded marks. Other answers were not sufficiently specific to be awarded a mark; for example, 'store data'. In 2(e), some candidates neglected synchronisation of contacts and a calendar in favour of the unrealistic use of a PDA to backup a desktop computer.

Question 3

Most candidates answered most but not all sections of the question correctly. A popular incorrect answer to 3(a) was: 'allow text less than 4 characters in length'. 3(b) was answered correctly by most candidates; however, some candidates showed little awareness of the need to give accurate cell references when these are requested. The need for improved accuracy was also demonstrated in some candidates' answers to 3(c). 3(d)(i) was answered correctly by many candidates. Some candidates answered 3(d)(ii) and 3(d)(iii) correctly, although a few stated that something would be 'cheaper' or 'easier' without qualification and were awarded no marks. In 3(e), most candidates were awarded 1 or 2 marks often identifying delivery times and costs from overseas vendors as reasons. In 3(f)(i), many candidates noted that it was not possible to know whether a customer had paid or not if they paid after four weeks but this did not necessarily lead to an improved coding system in 3(f)(ii).

Question 4

Many candidates answered most but not all sections of the question correctly. Many candidates answered 4(a)(i) correctly but there were some vague answers. In 4(a)(ii), most candidates were awarded at least 1 mark but a few copied out lengthy quotations from the email without identifying specific items of information. Most students answered 4(b)(i) correctly but some selected inappropriate software. Basic posters can be produced using many different types of software, including some spreadsheets, but this is not always the appropriate software to use. 4(b)(ii) was not well answered with some candidates giving vague answers such as; "DTP is for designing posters and word processors are not" and these were not awarded marks. In addition, some candidates stated that it was 'easier' or 'more suitable' without sufficient examples or explanation. Some candidates stated that some features were unique to DTP when they are common to both DTP and wordprocessors; for example, a few thought that only DTP allowed the use of clipart or coloured fonts. Most candidates answered 4(c) and 4(d) correctly although a wide range

of correct answers was given in 4(d)(ii). "Hard disk" was a common answer which was awarded a mark when candidates made it clear that this must be portable.

Question 5

Most candidates answered 5(a) and 5(b) correctly. In 5(c), many candidates showed an understanding of questionnaire design and the need for data to be captured in a manner that facilitates input to a computer. The use of character boxes and tick boxes was more common than in previous years. Some candidates provided an informative title and/or explanation, and a few provided for the questionnaire to be signed and dated. Many candidates answered 5(d) correctly although answers to 5(d)(ii) were sometimes vague. Many candidates answered 5(f) at length and some provided good explanations relating to issues such as scale of usage, security and cost. Many candidates noted the differences in editing the handwritten or database versions.

Question 6

Many candidates answered most but not all sections of the question correctly. In 6(a), most candidates were awarded 2 or 3 marks; the most popular incorrect answer was 'the ICT system adds one to the total when a person leaves'. In 6(b), many candidates answered correctly. Many candidates were awarded full marks in 6(c)(i), but some believed that employees entering and leaving the stadium several times would lead to the ICT system counting attendance inaccurately. In 6(c)(ii), most candidates appeared to understand the concept of testing an ICT system but not all could describe in sufficient detail specific tests that could be carried out. 6(d)(i) was answered correctly by most candidates but a very few could give no reason for doing this search in 6(d)(ii). 6(d)(iii) and 6(d)(iv) were answered correctly by most candidates but some answers to 6(d)(iv) were poorly expressed.

Question 7

Most candidates answered correctly in 7(a)(i). 7(a)(ii) was well answered by most candidates. A wide variety of other security precautions were described, with coded entry locks, grilles on windows, security or CCTV cameras, locking equipment to desks, and fitting alarms to either the room or the equipment being the most common correct answers. Candidates who answered 'cameras' without further qualification were not awarded a mark. Several candidates suggested strategies that were specifically excluded. Most candidates were awarded marks in 7(b). Most suggested that a 'firewall' or 'anti-virus' software could be used. A few candidates did not associate usernames with passwords. Several candidates showed a good understanding of network topology in 7(c) and many were awarded marks for producing a diagram of a star network with a printer and Internet link. Few candidates clearly indicated that the network was wireless. Many candidates did not demonstrate a secure understanding of software licensing in 7(d). Popular incorrect answers were 'Licences for a tablet computer' and 'Shareware installed by a student'.

Question 8

Most candidates attempted 8(a) and most were awarded at least one mark. Many candidates made a systematic attempt to cover lifestyles, patterns of work and the environment using side headings or by organising paragraphs. Many understood that: employment patterns would change; the time released could be used for further work or leisure; and that environmental improvements might result. Some candidates presented contrasting viewpoints clearly but most did not; for example, job losses in some areas but more employment in others; less car usage but more delivery vans. Some answers were vague. For example, many candidates stated that there would be no need to go to the shops at all although they did not say why. Most candidates attempted 8(b) and most were awarded at least one mark. Many candidates successfully identified the advantages and disadvantages of on line shopping and banking to people living in small and remote villages. However, some answers were vague. For example, some candidates stated that 'someone might get hold of your account details' without recognising that this

could be beneficial unless a hacker or criminal was involved. A very few candidates stated that one advantage was the ability to withdraw cash on line.	e

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 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. Where marks could not be given for a weak explanation or a vague description which lacked technical accuracy, it was not uncommon for candidates to be awarded marks because they had given a good example. 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.

The marking of the Foundation paper was computer based (e-marking). Whole written scripts are scanned and saved in electronic form, and each clip (subsection of a question) is marked separately. Each clip is marked in one of three categories: auto, general and expert. Auto marking is particularly appropriate for multiple choice questions; general marking for short answer questions and diagrams requiring a straight forward response; and expert marking for more complex and extended answers. At the end of the marking period an audit of the e-marking process was carried out to ensure its accuracy. As a result of the e-marking process, item level analysis of candidates' responses is available. The comments on specific questions are grounded in the judgement of the Principal Examiner; however, these are underpinned by reliable and accurate statistics.

Question 1

Most candidates answered 1(a)(i), 1(a)(ii) and 1(b) correctly and in full. In 1(a)(ii), a very few candidates showed little awareness of spelling checkers and suggested that the document should be rewritten. Most candidates answered 1(a)(iii) correctly but some believed that grammar checks and centring would be more appropriate than using bullets. Around a quarter of candidates answered 1(a)(iv) correctly and in full but most were awarded one mark. The use of a spelling checker to distinguish between 'there' and 'their' was a popular incorrect answer.

Question 2

Most candidates answered most but not all sections of the question correctly. Popular incorrect answers were: 2(a), some candidates believed a modem was an input device; 2(b), some believed a sensor was an output device; 2(c), some believed a PDA has a larger hard disk than a desktop computer; and in 2(d), some believed it was appropriate to keep the only copy of your work on a PDA.

Question 3

Most candidates answered most but not all sections of the question correctly. Popular incorrect answers were: 3(a)(ii), 'allow text less than 4 characters in length'; and in 3(d), 'a lesson on percentages so that the mechanic can calculate VAT'. In 3(b), incorrect answers were very varied and many did not give a cell reference.

Ouestion 4

Many candidates answered most but not all sections of the question correctly. In 4(a), most candidates were awarded 2 or 3 marks, and a popular incorrect answer was 'the train is going to Dent'. In 4(b)(i), a few candidates believed that presentation software was the most appropriate to use to produce a poster. 4(b)(ii) was not well answered with many candidates giving vague answers such as; "DTP is for designing posters and word processors are not" and these were not awarded marks. Many candidates stated that some features were unique to DTP when they are common to both DTP and wordprocessors. For example, many thought that only DTP allowed the use of clipart or coloured fonts. Most candidates answered 4(d) correctly and a wide range of correct answers was given. "Hard disk" was a very common answer which was awarded a mark when candidates made it clear that this must be portable. Some candidates ignored the request to give one form of backing storage and lost marks where they gave a mix of valid and invalid answers.

Question 5

Most candidates answered 5(a) correctly. The most popular incorrect answer was 'the driver's age'. In 5(b), few candidates showed an understanding of questionnaire design and the need for data to be captured in a manner that facilitates input to a computer. The use of character boxes or tick boxes was uncommon. A very small number of candidates provided an informative title and/or explanation, and even fewer provided for the questionnaire to be signed and dated. Questionnaires often asked for irrelevant information.

Question 6

Many candidates answered most but not all sections of the question correctly. In 6(a), the most popular incorrect answer was 'the ICT system adds one to the total when a person leaves'. Some candidates were awarded full marks in 6(b)(i), but many believed that employees entering and leaving the stadium several times would lead to the ICT system counting attendance inaccurately. In 6(b)(ii), the most popular incorrect test was 'record the exact time each person enters the stadium'. 6(c)(i) was answered correctly by most candidates but some could give no reason for doing this search in 6(c)(ii).

Question 7

Many candidates were awarded two or three marks in 7(a)(i). The most popular incorrect answer was 'remove parking restrictions on the main road so that it is easier to park. 7(a)(ii) was well answered by most candidates. A wide variety of other security precautions were described, with coded entry locks, grilles on windows, security or CCTV cameras, locking equipment to desks, and fitting alarms to either the room or the equipment being the most common correct answers. Candidates who answered 'cameras'

without further qualification were not awarded a mark. Several candidates suggested providing security guards which was specifically excluded in the question.

Question 8

A few candidates answered this question in full and expressed themselves clearly. Most candidates attempted this question and most were awarded at least one mark. Many answers were vague. For example, some candidates stated that 'Someone might get hold of your account details' without recognising that this could be beneficial unless a hacker or criminal was involved. A few candidates stated that one advantage was the ability to withdraw cash on line.

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 very few candidates were inappropriately entered, and these entries were often part of a large entry from one centre. Although there was generally improved literacy and many answers were better structured, 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.

For the first time, the Higher paper was marked on line (e-marking). Traditional marking is a well established process and is of whole written scripts. These are distributed to examiners by post and each paper is marked by one examiner. The accuracy of the marking of examiners is assured as team leaders second mark samples of each examiner's marked scripts, and the Principal Examiner second marks samples of each team leader's marked scripts.

An initial e-marking pilot had been done, and GCSE ICT Foundation papers were e-marked in 2005. E-marking requires re-organisation of the marking process. The whole written scripts are scanned and saved

in electronic form, and each clip (subsection of a question) is marked separately. Each clip is marked in one of three categories: auto, general and expert. Auto marking is particularly appropriate for multiple choice questions; general marking for short answer questions and diagrams requiring a straight forward response; and expert marking for more complex and extended answers. The auto marking is done under the direct supervision of the Principal Examiner. For the general marking, clips are distributed electronically to a team working together at a marking centre, and they mark all the responses for one clip at a time. The marking of these teams is standardized by the Principal Examiner, and on each occasion clips are marked, examiners have to demonstrate the accuracy of their marking by re-marking clips that have been pre-marked by the Principal Examiner (seeds). Any uncertainties during marking are referred direct to the Principal Examiner. For the expert marking, the items are distributed electronically to examiners working in their own homes. These examiners are recruited from the pool of examiners who marked whole scripts in previous years, and their marking is standardized by the Principal Examiner and team leaders by the traditional standardisation process. Even so, on each occasion clips are marked, examiners have to demonstrate the accuracy of their marking by marking seeds. Any uncertainties during marking are referred direct to team leaders. At the end of the marking period an audit of the e-marking process is carried out.

The Chief Examiner is convinced that the e-marking process ensures that candidates' scripts are accurately marked. As a result of the e-marking process, item level analysis of candidates' responses is possible. The comments on specific questions below are grounded in the judgement of the Principal Examiner; however, these are now underpinned by reliable and accurate statistics.

Question 1

Many candidates answered most but not all sections of the question correctly. In 1(a)(i), some candidates explained how to activate the spelling checker not realising that the spelling check had already been done, and a very few candidates suggested that the document should be rewritten which is inefficient. Most candidates were awarded marks in 1(a)(ii). although several described features unrelated to the lay out of the second sentence, such as, font size, style or colour changes. Most candidates answered 1(b)(i) correctly. In 1(b)(ii), many candidates could describe a similarity but some answers were unqualified; for example, 'both paste' was not awarded a mark. Descriptions of the difference often stated an outcome of method 1 or method 2 without comparison. For example, 'copy leaves the bar chart in the spreadsheet' was not awarded a mark unless it was explained that 'cut does not leave the bar chart in the spreadsheet'.

Ouestion 2

Most candidates answered 2(a)(i) correctly. A popular incorrect answer was 'modem'. Most candidates answered 2(a)(ii) and 2(b) correctly. Most candidates answered 2(c)(i) correctly; a popular incorrect answer was 'to save a folder containing an archive of photographs from previous years'. Many candidates could describe other uses of a PDA in 2(c)(ii) but some gave answers that suggested that they believe a PDA is similar to a laptop. This was also evident in 2(d) and some candidates neglected synchronisation of contacts and a calendar in favour of the unrealistic use of a PDA to backup a desktop computer.

Question 3

Most candidates answered most but not all sections of the question correctly. A popular incorrect answer to 3(a) was: 'allow text less than 4 characters in length'. 3(b) was answered correctly by many candidates; however, some candidates showed little awareness of the need to give an accurate cell reference when this is requested. The need for improved accuracy was also demonstrated in some candidates' answers to 3(c). 3(d)(i) was answered correctly by many candidates. Some candidates answered 3(d)(ii) correctly although many stated that an on line purchase would be 'cheaper' or 'easier' without qualification and were awarded no marks. Most candidates answered 3(d)(iii) and 3(e) correctly.

Question 4

Many candidates answered most but not all sections of the question correctly. In 4(a), many candidates were awarded at least 1 mark but some copied out lengthy quotations from the email without identifying specific items of information. Many students answered 4(b)(i) correctly but many selected inappropriate software. Basic posters can be produced using many different types of software, including some spreadsheets, but this is not always the appropriate software to use. 4(b)(ii) was not well answered with many candidates giving vague answers such as; "DTP is for designing posters and word processors are not" and these were not awarded marks. In addition, some candidates stated that it was 'easier' or 'more suitable' without sufficient examples or explanation. Many candidates stated that some features were unique to DTP when they are common to both DTP and wordprocessors; for example, many thought that only DTP allowed the use of clipart or coloured fonts. Most candidates answered 4(c) correctly. Most candidates answered 4(d) correctly and a wide range of correct answers was given. "Hard disk" was a very common answer which was awarded a mark when candidates made it clear that this must be portable.

Question 5

Most candidates answered 5(a) and 5(b) correctly. Some candidates answered 5(c) in full but very few gave reasons relating to issues such as scale of usage, security and cost. Many candidates noted only the differences in editing the handwritten or database versions. Very few candidates provided valid and well explained comparisons of the use of one system rather than the other.

Question 6

Many candidates answered most but not all sections of the question correctly. In 6(a), most candidates were awarded 2 or 3 marks; the most popular incorrect answer was 'the ICT system adds one to the total when a person leaves'. Most candidates were awarded full marks in 6(b)(i), but only the fourth reason was not popular with some candidates. In 6(b)(ii), most candidates appeared to understand the concept of testing an ICT system but few could describe in sufficient detail specific tests that could be carried out. Most candidates answered 6(c) correctly although the explanations given in 6(c)(ii) were not always clearly expressed.

Question 7

Most candidates were awarded two or three marks in 7(a)(i). 7(a)(ii) was well answered by most candidates. A wide variety of other security precautions were described, with coded entry locks, grilles on windows, security or CCTV cameras, locking equipment to desks, and fitting alarms to either the room or the equipment being the most common correct answers. Candidates who answered 'cameras' without further qualification were not awarded a mark. Several candidates suggested providing security guards which was specifically excluded in the question. Most candidates were awarded marks in 7(b). Many suggested that a 'firewall' or 'anti-virus' software could be used but it was not always clear that candidates fully understood the function of this software. Many candidates did not associate usernames with passwords.

Question 8

A few candidates answered this question in full and expressed themselves clearly. Most candidates attempted this question and most were awarded at least one mark. Many answers were vague. For example, many candidates stated that there would be no need to go to the shops at all although they did not say why. Many understood that: employment patterns would change; the time released could be used for further work or leisure; and that environmental improvements might result. Few candidates could present different viewpoints; for example, job losses in some areas but more employment in others; less car usage but more delivery vans.

Coursework

General

Most centres marked candidates' work to a consistently high degree of accuracy. However, sometimes marking was not in line with the AQA standard as exemplified at the centre standardising meetings held in the autumn term.

Coursework was generally very well presented; even so, the quality and quantity of the coursework submitted varied between centres and candidates. There were, occasionally, a few candidates who produced too much repetitive and irrelevant printed output.

The wide range of realistic topics covered and the increasingly sophisticated use of application software by many candidates was particularly pleasing. The quality of the final reports did not always match the skills demonstrated during the use of the software.

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 and these had been vetted for suitability by the teacher. This choice allowed candidates to demonstrate their strengths and knowledge of the tasks, generated interesting topics of personal interest and also fostered a sense of pride and ownership in the coursework. Such an approach appeared to encourage candidates to document their work more thoroughly and hence the coursework generally obtained higher marks. Where centres provided a very narrow range of similarly structured tasks, little differentiation was allowed for and it often appeared difficult for candidates to demonstrate their skills.

Coursework tasks that were awarded high marks:

- were within the capabilities and aptitudes of the candidate;
- were designed for others to use;
- were reusable systems;
- 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;
- had evidence, and annotation by assessors, to support the marks awarded;
- used a report structure based upon the assessment criteria headings:
- were sufficiently restricted to allow satisfactory completion of the tasks.

Theme 1: Communicating and Handling Information

Tasks addressing the theme of *Communicating and Handling Information* were usually appropriate with a database solution often being the preferred option. However, there were a number of candidates who simply produced newsletters, brochures, basic web pages or simple linear presentations which were not developed in line with the assessment criteria in the specification. It is essential that centres consider carefully how the solution to the chosen problem allows access to each of the assessment criteria. The decision by an increasing number of centres to guide candidates towards web-site creation and the use of presentation software is welcomed, but it is advisable to consider carefully the issue of reusability so that an actual ICT system is produced rather than a one-off solution. Candidates should always remember that they are designing a system for someone else to use and should be encouraged to consider the needs of the end user.

Theme 2: Controlling, Measuring and Modelling

The theme of *Controlling, Measuring and Modelling* was mainly covered by tasks based on spreadsheets. Care needs to be taken to ensure that spreadsheet-based tasks submitted within this theme are modelling tasks not data handling tasks. Modelling requires the use of functions and/or formulae that can alter the outputs when the input variables are changed and the production of "what if" scenarios. In order to distinguish between a model and a data handling task it is recommended that candidates run their model a number of times with different input parameters producing a range of outputs. Candidates cannot be awarded the full range of marks within this theme if they do not produce a modelling task.

An increasing number of centres submitted control (or measuring) tasks to cover this theme. However, too many of these tasks appeared to be no more than a class exercise repeated in greater detail and, as a result, little original work was completed by these candidates. Where the centre had considered how the assessment criteria could be met and allowed candidates some freedom of choice then results were more encouraging.

Internal Standardisation at the centre

Most centres assessed candidates' coursework consistently and in line with the assessment criteria. Where more than one teacher is involved in the delivery of the course, centres are required to carry out internal standardisation of marking before the marks are submitted and there was frequently good evidence of this. It was clearly evident where all of the work within a centre had not been marked to the same standard and this often caused the whole of a centre's marks to be adjusted.

Provision of information for the Moderator

The background information provided by centres varied. It was most helpful when centres provided moderators with:

- a cover sheet for each task which clearly stated the theme that the task addressed;
- details of the introduction to the task, including copies of any class handouts and support materials;
- annotation on the candidates' work indicating where and why each mark had been awarded with reference to each assessment criterion as indicated in the specification.

Moderation was difficult where there was a lack of assessor 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

Most centres are aware that marks can only be awarded when evidence is provided to support that award. A very few centres awarded full marks based on trivial explanations and/or little printed evidence. The assessment criteria for the award of marks are clearly set out within the specification and the coursework support materials available from the board provide more detailed explanations of what evidence deserves credit.

Comments in relation to the individual Assessment Criteria

Candidates should be encouraged to adopt a systems analysis approach to their work and design a system that can be used by a third party to meet a defined and identifiable need. The major points of concern are discussed in detail below. Many of these points have been mentioned in previous years' reports.

A: Description of the Task to be attempted

The description should provide a good understanding of what is involved within the problem. Too many candidates described the steps they would take to solve the problem rather than the actual problem, e.g.; "I am going to". The possible methods of solution and the method chosen are awarded credit in the Analysis section.

B: Analysis

Although a list of possible methods that could be employed to solve the problem was often provided, a more detailed description of at least two of these methods is required for marks to be awarded. One quite acceptable possible method was to simply improve the current system yet this was rarely mentioned.

C: Specification

Most candidates provided some relevant objectives, with many candidates providing clear and reasonable evaluation criteria. Although it was often appreciated that evaluation criteria need to be measurable it was not always evident how these referred specifically to the actual problem being solved. To gain full marks candidates need to provide a detailed and reasoned specification which demonstrates depth and sophistication in their choice of evaluation criteria. Good specifications helped candidates to provide high quality responses within the Evaluation section.

D: Design of the ICT System

In this section, the candidate should outline the solution of the whole task. A number of candidates appeared to be misled by the use of the word 'design' and confused the design of the screen layout or database structure with the design of the ICT system required here. Credit for the design of data collection forms, file structures, queries, output reports, screen layout, etc. is given within the Implementation section.

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 showed the relationship between the various parts of the solution by including detailed annotated flowcharts, systems diagrams, structure diagrams and/or algorithms.

Several candidates produced a flowchart with no explanation and, in some instances, the flowchart was not relevant to the task being undertaken. Other candidates included generic flowcharts that appeared to have been copied from text books or elsewhere. Some of these had been adapted to the task being undertaken while others had not.

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 visualise 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 especially for the award of the higher marks within each section. A few centres awarded marks where no evidence or only trivial justification was provided.

E(i) and E(ii): Hardware and Software Resources required

In these sections candidates are required to state the minimum resources required to run the proposed system and explain their choices. Examples include the minimum backing storage capacity, the minimum speed of processor or the type of software package to be used. Candidates should justify the choice of at least one item of hardware and one piece of software instead of others.

These sections were often started with comments about generic hardware (e.g. mouse, keyboard, computer monitor) and software (such as a general integrated package) without candidates then going on to actually select specific items relevant to the needs of their system solution.

Many centres preferred to approach these sections by allowing candidates to carry out some research on the Internet. Candidates then chose the best solution for their specific task by making a clear selection and explaining the reasoning behind their choice. Too many candidates either just produced lists without making a choice or failed to realise that the selection had to be appropriate to the task. The production of advertising lists and marketing materials alone is insufficient to gain credit.

If a candidate adopts a system design approach to solving the given task for a third party then the assessment criteria become easier to address. Where candidates tried to solve a problem for themselves they often only looked at the resources that were at their disposal neglecting to look at a variety of hardware and software which would be suitable for the task.

Some candidates made statements such as "I will use a particular software package because it is the only package available" 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. Candidates from some centres included what appeared to be a generic reference sheet which had not been developed to relate to the problem being solved. No marks could be awarded in these cases.

E(iii):Data Collection, Data Capture and Input

Some excellent work was submitted in this section that included both data capture forms and data entry screens. The input forms for database work were particularly impressive and often contained clear justifications for the designs.

However, many candidates did not provide an explanation as to how their 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/or ease of transfer to a computerised system.

Some candidates gave thought to data entry when designing spreadsheets by using features such as comments or simply highlighting the cells which required data input.

E(iv): Data Verification and/or Validation

The extensive facilities built into most modern software for data validation were used by a large number of candidates who gained the maximum marks although some candidates seemed unaware of the data validation options offered by most spreadsheet packages. Candidates did not always provide evidence of the use of more than one technique. Appropriate validation techniques include range checks, presence

checks, the use of input masks and the use of input lists. Data type checks are also acceptable as a validation technique under certain circumstances, but field length checks are usually not appropriate. Evidence was usually provided by annotated screen shots of how the validation was set up and of what happens when an invalid entry is made.

There were only a few candidates who provided evidence of verification by supplying the original documents and referencing the corrections done; many stated only that data entry had been checked by visual verification between the source document and the screen. Many references to verification were too generic to gain credit with only a few candidates relating verification to the actual task.

Some of the tasks are such that it is inherently difficult to validate or verify the data (for example, when producing a presentation or a web page) and here a critique of the appropriateness of the various techniques is expressly mentioned in the assessment criteria as being worth two marks. Candidates should be encouraged to discuss what validation and verification checks would be desirable. A number of centres mistakenly awarded two marks for weak evidence which did not meet the criteria.

E(v): Data and/or Program Structures

The vast majority of candidates did this section well occasionally offering very good justifications for the particular data structures or formulae used. It is necessary to ensure that row and column headers in spreadsheets are printed in order for formulae to be checked. In database work, the reasons for the selection of table properties such as field lengths and data types were not always fully explained. Although the evidence for this section was sometimes mistakenly placed in the Design section, candidates were not disadvantaged because of this and credit was given.

E(vi): Output Format

This section was frequently well done, particularly in database work where many candidates designed appropriate reports, forms, queries and mail merge templates. Despite the guidance in the support materials, some centres gave marks for the simple production of printouts without any attempt being made to design specific customised output formats. Candidates who received the higher marks often annotated their printouts to explain how the design of these related to their solution.

With modelling tasks, where spreadsheets are used, candidates are expected to format the spreadsheet differently from its default settings. Candidates who received the higher marks often annotated any graphical output to indicate why a particular type of chart had been produced and how it related to the solution.

F: Testing

Most 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.

Many candidates demonstrated a clear strategy by producing a test plan in table format indicating the expected outcome referenced to screenshots showing the actual outcome. Candidates should be encouraged to produce a systematic comprehensive strategy for testing their solution using valid, invalid and extreme data where the outcome is known so that problems with their system can be identified and corrected. A few candidates were able to gain full marks by providing evidence of testing of the solution using a clearly defined, comprehensive and fully justified strategy. The best candidates stated the expected outcome before carrying out a test.

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 quite 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.

G: User Documentation

Many candidates scored well in this section. Separate and clearly identifiable user documentation is required and many candidates used their desk top publishing skills to produce some excellent manuals in booklet form. A few candidates even produced 'on-line' user documentation providing hard copy as evidence.

It is important to take into account that the ICT system has been designed for a third party who may be an unfamiliar user of the system created. Consequently, instructions for the use of the system must be comprehensive. Those candidates who virtually copied the software manual by giving generalised instructions on how to use the software to create the system were awarded few marks.

A surprising number of candidates incorrectly included instructions on how to make backups as a part of the technical documentation. Technical documentation should cover areas that a general user would not be expected to use such as changing validation rules, altering formulae, adding links, etc.

H: Evaluation

A failure to specify suitable performance criteria in the specification and a lack of a comprehensive, planned testing strategy, limited the ability of many candidates to produce good evaluations. Many candidates seemingly copied and pasted their specification into the evaluation section, but not all continued to comment on the effectiveness of their solution against each of their evaluation criteria. Only the best evaluations went on to make any reference to test results. Sensible refinements which could usefully be employed in future were rarely given adequate consideration.

J: Communication within the report

Many candidates were rewarded for the clarity of their communication and a good standard of spelling, punctuation and grammar. The majority of candidates used the structure of the assessment criteria to present their report and this helped them communicate effectively. The use of word processing usually resulted in the presentation of high quality reports, appropriately formatted, and containing a varied range of techniques. Some candidates relied entirely on spelling checkers and did not proof read their work leading to some interesting sentences.

Administration

Most centres submitted candidates' marks and coursework by the published deadline. It was disappointing that other centres did not submit their marks by the deadline and as a result slowed the moderation process. It is possible that the resulting delay could lead to candidates not receiving their grades on the published date.

The Candidate Record Forms were generally completed accurately and clearly which greatly assisted the moderation process. However, centres must be careful to avoid arithmetic errors when totalling a candidate's marks and transcription errors when transferring marks to the Candidate Mark Sheets. Candidate Mark Sheets were not always completed according to the board's instructions and the moderation process was occasionally hampered by centres not displaying marks clearly on all the copies submitted to the moderator.

A few centres did not include the Centre Declaration Sheet to indicate that internal moderation had taken place. A number of candidates failed to sign their Candidate Record Forms. The absence of a signature could affect the prompt reporting of results and centres should make every effort to ensure that this is done before coursework is submitted.

Most centres sent a correct sample to the moderator as indicated in the AQA regulations. However, the sampling procedure was problematic for a minority of centres and they appeared unable to supply all of the requested coursework by return of post.

It was a great help to the moderation process when centres provided the moderator with a rank order list. Most centres also assisted the moderation process by sorting the coursework sample into candidate number order.

It is recommended that candidates' coursework should be securely bound preferably using a treasury tag in the top left corner, and candidates should be discouraged from using plastic wallets and card folders. Moderators' work is impeded by the minority of centres that submit coursework as either loose pages in card folders; in plastic wallets; or 'held together' by paperclips.

Where two tasks are submitted by candidates then each task should be clearly marked as to which theme it addresses. All pages should be numbered. The signed Candidate Record Form should always be attached to the front of the candidate's coursework.

An increasing number of centres adopted the above guidelines. This was appreciated by moderators and is a considerable help in the smooth and efficient management of the moderation process.

Mark Range 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	75.9	12.4
3522/C	80	180	65.8	31.4
Foundation tier overall 3522		300	141.7	36.5

		Max. mark	C	D	Е	F	G
3522/F boundary mark	raw	120	78	66	54	42	30
3322/1 boundary mark	scaled	120	78	66	54	42	30
2522/01 1 1	raw	80	42	34	26	18	10
3522/C boundary mark	scaled	180	95	77	59	41	23
Foundation tier scaled boundary mark		300	162	135	109	83	57

Higher tier

Component	Maximum Maximum Mark Mark (Raw) (Scaled)		Mean Mark (Scaled)	Standard Deviation (Scaled)
3522/H	120	120	80.5	11.2
3522/C	80	180	121	30.3
Higher tier overall 3522		300	201.4	39.6

		Max. mark	A*	A	В	С	D	allowed E
3522/H boundary mark	raw	120	96	86	76	67	56	-
	scaled	120	96	86	76	67	56	-
2522/01 1 1	raw	80	72	62	52	42	34	-
3522/C boundary mark	scaled	180	162	140	117	95	77	-
Higher tier scaled boundary mark		300	251	222	192	162	133	118

Provisional statistics for the award

Foundation tier (2199 candidates)

	C	D	E	F	G
Cumulative %	32.1	59.2	78.5	91.5	97.5

Higher tier (6152 candidates)

	A*	A	В	C	D	allowed E
Cumulative %	10.5	33.5	60.1	84.3	95.1	97.6

Overall (8351 candidates)

	A*	A	В	C	D	E	F	G
Cumulative %	7.7	24.7	44.3	70.5	85.6	92.6	96.0	97.6

Short Course

Foundation tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
3528/F	60	60	39.7	6.9
3528/C	40	90	28.0	16.2
Foundation tier overall 3522		150	67.6	19.4

		Max. mark	С	D	Е	F	G
2520/5111-	raw	60	44	38	32	26	20
3528/F boundary mark	scaled	60	44	38	32	26	20
2520/01 1 1	raw	40	21	17	13	9	5
3528/C boundary mark	scaled	90	47	38	29	20	11
Foundation tier scaled boundary mark		150	84	71	58	46	34

Higher tier

Component	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)	
3528/H	60	60	39.3	6.0	
3528/C	40	90	54.0	17.8	
Higher tier overall 3528		150	93.3	20.9	

		Max. mark	A*	A	В	С	D	allowed E
3528/H boundary mark	raw	60	49	44	39	34	21	-
	scaled	60	49	44	39	34	21	-
2520/011	raw	40	36	31	26	21	17	-
3528/C boundary mark	scaled	90	81	70	59	47	38	-
Higher tier scaled boundary mark		150	129	110	95	81	59	48

Provisional statistics for the award

Foundation tier (3198 candidates)

	C	D	E	F	G
Cumulative %	21.2	41.2	63.9	81.3	92.2

Higher tier (3279 candidates)

Overall (6477 candidates)

_	A*	A	В	C	D	E	F	G
Cumulative %	2.4	11.3	23.4	47.2	67.5	80.3	88.9	94.3

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).