

GCSE 2004

June Series



Report on the Examination

Applied Information and Communication Technology (Double Award)

-
- Unit 1 ICT Tools and Applications
 - Unit 2 ICT in Organisations
 - Unit 3 ICT and Society

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Set and published by the Assessment and Qualifications Alliance.

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Applied Information and Communication Technology (Double Award)

General Comments

Some centres sent work for Units 1, 2 and 3 together. Centres should note that candidates can be entered for each unit individually during the time the candidate is studying for the qualification and it is highly likely that each unit will be moderated or examined by a different person. Centres should, therefore, ensure that work is submitted separately.

For the portfolio units, it would be very useful to have centre assessments marked clearly with comments on where credit had been awarded. A marking grid is available from AQA or the centre can devise its own. Many centres already appear to be providing this, which is pleasing to see as it assists the moderation process and also allows the moderator to give much more detailed feedback to the centre on their assessment.

Some candidates presented their portfolios in folders, plastic wallets or binders. This practice should not be employed. Portfolios should have a hole punched in one corner and the pages tied together loosely with a treasury tag.

Unit 1

This is the second year that the unit has been offered. There are noticeable improvements in some portfolios in comparison to last year, although some candidates submitted inappropriate work - details of which are given in the report. There were some very successful portfolios produced by some candidates.

This unit consists of five sections; Report Reviewing Documents; Production of Documents; Description and Evaluation of Documents; Report or Presentation on organisations using a range of sensing and image manipulation software and Standard Ways of Working. It is necessary that candidates produce evidence for all five sections as those who do not complete them all are at a serious disadvantage as they can only achieve a portion of the marks allocated for this unit.

Evidence for the whole unit can be produced by the candidate and it is expected that this will be done. If, in exceptional circumstances, this is not possible the centre must apply to AQA for special consideration. Teacher witness statements are not admissible.

Report Reviewing Documents

Candidates **must** include the documents they are reviewing to enable the moderator to assess the review. Failure to do so is likely to result in a significant negative adjustment to the marks for this task. Centres were reminded of this in the 16 December 2003 issue of the *Examinations Update* and the Specification for 2004 was amended to emphasise this point (please refer to page 23).

Some centres gave candidates outline tables and report layouts. This is acceptable as the moderator will only consider the candidates response to these. However, candidates did seem to find the space on tables limiting. It is difficult to give a very detailed answer in the space allocated on a table. Centres must also ensure that the table headings do not restrict the candidate. Candidates frequently did not give the details required for even the lower marks, i.e. purpose, content and layout of documents, as these were not listed in the headings provided by the centre.

A letterhead is **not** a complete document, nor is a template. These can be used as part of a document and may be used in the development of documents, but on their own are incomplete.

Documents produced must have something within them, for example, an invoice simply showing the layout is only a template and is an incomplete document. It is very relevant to the use of ICT that the candidate knows how the information is included in the document. For example, how is the total price calculated?

Where candidates review a number of similar documents it is difficult for them to cover the criteria. Some candidates reviewed a large range of word processed documents which did not meet the requirement that the documents be produced using several different software applications. It would be better if candidates reviewed a smaller number of documents that were produced using different applications.

Some candidates reviewed documents that they had produced. This would be appropriate for the task Description and Evaluation of Documents, but not here as candidates should be reviewing business documents. A small number of candidates gave a general report about documents, which was not an appropriate task.

0-4

Candidates must describe the content, purpose and layout of the collected documents to gain the first 4 marks. To gain further marks the description must be more detailed and must discuss the applications that would be used to produce the documents and evaluate them.

5-11

Further marks can be awarded for a better quality description as well as detailing the content, layout and the purpose effectively based on two specified software applications. Candidates must give applications. Application may have direct relevance to the description e.g. invoice using spreadsheet for calculations. In addition the candidate must attempt an evaluation of the documents' suitability for purpose.

12-17

To be marked at the highest level evidence needs to be submitted containing detailed and thought through evaluative comments - a very detailed description of the content, layout and purpose of the documents submitted produced using three software applications. In addition the candidate must evaluate the documents' suitability for purpose.

18-21

In addition to all of the above candidates must produce

- a very detailed and well structured report
- a detailed evaluation of the documents' suitability for purpose
- suggestions of how these documents could be improved.

Production of Documents

Some candidates produced very good documents and evidence for all aspects of the criteria.

Evidence is required from candidates in the form of printouts. Teacher witness statements are not sufficient.

Candidates must produce their own individual design for the documents including text. For example, candidates are expected to know that a business letter should contain formal language and should therefore produce the language to match the document.

Documents produced must have some items in them; an invoice just showing the layout is a template only and is an incomplete document. It is very relevant to the use of ICT that the candidate knows how the information is included in the document. For example, how is the total price calculated?

Letterheads and templates are incomplete documents which may be used as part of a document or within a stage in the development of a document.

A database is not a document, but a report produced by the database is. Some candidates included a database table, but for no apparent reason as it was not used in any document.

0-5

The majority of candidates achieved these marks. Some candidate produced a large number of simple and very similar documents using a limited range of techniques. This was sufficient to gain credit in this range but did not gain any extra credit. Candidates would gain more credit by producing documents in different applications using a range of techniques. This would also give them the opportunity to integrate information from these applications to produce complex documents.

6-13

Many candidates produced a variety of documents, however, many did not provide evidence of the ICT techniques used to search and select information during their production.

Some candidates provided web pages as evidence of a search which was not sufficient. Similarly a screen shot of a search engine page is insufficient. A screen shot of a search engine along with the search criteria would be required to provide the evidence.

Some candidates used databases to good effect producing good queries or reports that effectively evidenced searching and selecting, though many candidates frequently printed the whole database so did not search or select from them.

Candidates frequently stated that they had used a spreadsheet without providing the necessary evidence. The evidence offered was often just a table that could have been produced in a variety of applications. Sometimes candidates used a spreadsheet simply to produce a table rather than using the spreadsheet facilities. Evidence of the use of a spreadsheet could be given as a formula printout, for example.

Many candidates produced creditable newsletters and other documents produced using a DTP application. Some relied heavily on clipart but others used the document to include information from a variety of sources to produced complex documents. Those who showed the development of these documents gained credit in this task and in the Description and Evaluation section.

14-18

Candidates are required to integrate two software applications to produce documents, in addition to using ICT effectively.

The use of clipart in a word processed document does not constitute integration of information from different applications. If there is evidence that the clipart has been edited in a graphic application then the graphic application will be credited.

Some candidates used their database in mail merge documents giving printouts of merge fields and all the developmental stages of the documents. This provided good evidence of integrating information from two applications.

19-15

Complex documents are those which integrate data from three separate applications. For example, a mail merge letter will be produced in a word processing application, using names and addresses from a database. Candidates may also have information in the body of the letter that has been produced in a spreadsheet.

To gain full credit the documents produced must be fit for purpose. They should be of a quality that is suitable to be given to the intended person. The layout should be appropriate and confirm to current standards. Some documents had been awarded full marks where the alignments and fonts were inconsistent and some where items such as charts were given after the closure in a letter. All the required items should be present. Examples of basic errors were the omission of date, incorrect greeting and closure in a letter. The style of writing should also be appropriate.

There were many examples of documents that were clearly not suitable for purpose gaining full credit.

Description and Evaluation of Documents

Some candidates made a good attempt at this task, but frequently gave very general descriptions of their documents so did not cover the criteria.

0-6

Candidates must give the features of the software and how these are used to meet the purposes of the documents. Some candidates gave reports on the development with screen shots of what they had done. Others annotated the drafts they had included with the software facilities they had used. Many candidates, however, did not include software facilities or how these met the purposes of the documents.

7-14

Candidates who had produced good evidence in the 6-13 range of Production of Documents and also 0-6 of this task found that evidence useful here.

Unfortunately many candidates gave limited drafts of the documents with limited annotation. Some were limited to spelling checks and gave few real developments of the documents.

15-18

In addition to the criteria above, candidates were expected to evaluate the documents they produced. Candidates generally found this difficult and some of the evaluations were superficial. Some used the same template as they had use in the Report Reviewing Documents but with mixed success.

19-22

In addition to the above the candidate was expected to compare their own documents with similar commercially produced documents.

Some candidates described their own documents and the commercial documents but did not produce any evaluation from this.

A few candidates missed the point and compared the way a company might produce marketing material, for example. The final documents were quite different and were not compared.

Report or Presentation on organisations using a range of sensing and image manipulation software

Candidates should describe all types of software listed in the assessment grid. These are

- CAD/CAM
- Sensing and control
- Image manipulation.

Some candidates included reports on other software in addition to those required, which gained no further credit.

Candidates are required to produce *either* a report or presentation. Some candidates produced both, which did not gain further credit. It is advisable for candidates to include their speaker's notes for the presentation as the details required may not be given in the presentation slides.

Candidates must describe in detail three main features and purposes of the use of the software by organisations. Many candidates listed features rather than described them, and some descriptions were very brief.

In addition to describing the features, candidates must comment on the impact of business of this use of the software. In order to gain full credit the candidate must comment on all types of software and its effect on business in some detail.

Some candidates confused scanning bar codes with sensing and control systems.

Standard Ways of Working

Candidates must create a directory structure for this unit only. Some candidates gave directory structures for all their current work but gave no detail for this unit. They must store their working files, research and drafts for this unit within these directories.

Many candidates provided vague sources of information, for example, the internet or my teacher. These are not sufficient. A full definition of any source should be given. For example, a full URL for a website; a title, author, publisher, ISBN for a book; a name, job title, company for a person.

In order to verify the source the candidate needs to state what information they have used from the source and then find another source which confirms this.

Some candidates provided pages of websites but did not explain them in any way. This is not sufficient. The candidate must explain the verification.

Some candidates gave search engines as sources but search engines do not contain information themselves and cannot be used as sources.

Unit 2

This is the first year that candidates have been entered for this unit. There were some very successful portfolios from some candidates. Some candidates, however, have submitted inappropriate work. Details are given in the report below.

This unit consists of four parts; Description of ICT Systems, Hardware, Design of ICT System, and Evaluation and Testing of ICT System. It is essential that all four parts are attempted and candidates who do not complete them all are at a serious disadvantage as they can only achieve part of the marks available for this unit.

Evidence for the whole unit can be produced by the candidate and it is expected that this will be done. If, in exceptional circumstances, this is not possible the centre must apply to AQA for special consideration. Teacher witness statements are not admissible.

Description of ICT Systems

Candidates must describe three features of ICT systems for two organisations. In addition, they must describe the advantages and disadvantages of the specific system and not general ones. Candidates should also describe how each ICT system being investigated has affected working practices in the organisation, the cost of the ICT system to the organisation, its security and robustness in terms of protecting data, its information and processing characteristics and how the system verifies data. Candidates should also identify three sources that they have used to obtain information about the organisation and validate them.

Very few candidates commented on working practices or information and processing characteristics and few gave any sources of information. Centres should note that in order to gain full credit in a particular range of marks the candidate must attain all of the criteria listed. When only parts of the criteria have been covered, only a portion of the marks may be awarded.

Many candidates tried to design hardware which was suitable for organisations. This is not an appropriate task for candidates at this level and resulted in many inaccurate and unrealistic designs and comments. Many candidates offered a discussion of their own hardware as the Description of ICT Systems, but this is not what is required. Candidates are expected to investigate real ICT systems. For one organisation many candidates discussed how they recruited staff but did not investigate ICT systems within the organisation at all.

Hardware

Candidates will gain more credit from describing three hardware devices in detail rather than many very briefly. Some technical detail is required. A large number of candidates listed a large number of devices and only described them very briefly. In addition, candidates need to discuss the connections of the hardware they have chosen. To gain credit in the 13-18 range candidates must also discuss the cost of each device and the efficiency of each.

Candidates are expected to provide up-to-date information on hardware devices. Some of the information given was clearly from old text books and was no longer accurate. There are many up to date sources of information that would have been more appropriate for this unit.

Design of ICT System

0-4

Some candidates did describe their systems fully but others produced printouts with little explanation. For credit in this range the candidate must provide details of the purpose, benefits and information requirements of their system.

5-9

Candidates must give a fuller description of their system to gain credit here. Additionally, they must represent the ICT system in a graphical manner. Some candidates gave system flowcharts or other flowcharts whilst others gave a hybrid diagram. Candidates are required to produce Data Flow Diagrams rather than flow charts for their systems.

10-16

Further credit can be given here for a very detailed design and a well-produced Data Flow Diagram. Candidates must also model their system. Evidence of this should be printouts from the system, which should be annotated.

17-24

Some candidates provided very full printouts with annotation and explained very fully how they developed their system. Evidence was clear and the techniques used were well explained. However, most candidates gave very brief evidence and some did not annotate their printouts.

25-28

In addition to the above, candidates should describe a series of success factors for their system rather than just provide a list. The majority of candidates did not do this.

29-35

Many candidates gave details of data types and showed a data set. Some also explained inputs. However, there was little detail of sources of information for the system, processing and outputs.

Evaluation and Testing of ICT System

0-6

It is important that once the system has been set up that it is tested fully. Few candidates did this successfully. Some candidates did submit a test plan but then omitted to implement it so no printouts were given as evidence of the testing. A few candidates did describe refinements they had made to the system but it was rare for candidates to comment on the robustness or efficiency of the solution.

7-10

Most candidates did write a user guide for their system. Some candidates wrote a user guide for the software application they were using and others wrote a technical guide. These were not required.

11-14

Many candidates were awarded high marks for this section when there was little evidence provided. Many candidates offered a test plan, but did not carry it out. Others tested some aspects of the system, for example the input, but omitted others.

15-19

Many candidates did not attempt to evaluate their system and some did so at a superficial level. Candidates are also expected to submit evidence of third party feedback on the system. Some did this by letting a teacher or student try the system and get written evidence from them. The most successful candidates used their comments in their evaluations.

20-24

Few candidates attempted to evaluate their User Guide and of those many were superficial. Candidates are also expected to submit evidence of third party feedback on the User Guide. Some did this in the same way as they had done for the system.

Unit 3

Introduction

This was the third opportunity for centres to enter candidates for the externally assessed unit, and the size of the entry showed another considerable increase over the size of the previous cohort, with nearly 10,000 candidates being entered. June 2004 also marked the end of the first two-year cycle of the new qualification, and it is likely that this will have contributed to the size of candidature.

Although in the main candidates demonstrated an acceptable level of knowledge and awareness of the basic ICT relevant to the unit, many had great difficulty in relating that knowledge and awareness directly to the areas of society identified in the specification. It is that higher-level skill which identifies the successful Applied ICT GCSE candidate.

Examiners felt that there was a slight improvement in the overall quality of candidates' work, and it was clear that many centres had taken note of the advice offered in the Unit 3 Teacher Support meetings held earlier in the year.

There have been a large number of teachers' standardisation and support meetings held over the past three years, and a further range will be held during 2004 and into 2005. Centres are very strongly encouraged to send a representative to these meetings, and to cascade information received to colleagues back in the centre. Portfolio advisers and members of the senior examining team are available to lead training sessions in centres for groups of staff. Details of the arrangements and costs of such sessions are available from the AQA Subject Office in Manchester.

Task One: Report

This task was worth 30% of the total marks, and required candidates to produce a report on the technologies available to access and exchange information and carry out transactions in Working Styles and New Employment Opportunities

The emphasis of this report was required to be on that specific area, and examiners were looking for evidence that candidates had studied that area in depth and were able to relate their answers to it. Unfortunately, a large number of candidates produced generic reports that did not focus sufficiently on the identified area, and so were unable to achieve more than the minimum number of marks.

It is expected that candidates will have been taught about all the areas of society identified in the specification. The assessment, however, focuses on one of the areas, and candidates are required to carry out additional detailed research into that particular area, and use their research to produce a detailed report. Many of the assignments produced by candidates, however, did not show evidence of that detailed research, and it appeared that many candidates relied instead on general knowledge to produce their report.

Centres are asked to point out strongly to candidates the need for detailed research, and to remind them that even a 'basic description' as required in the first mark range, needs some evidence of knowledge of the subject.

The main reason for some candidates' poor performance in this task was the lack of focussed research into Working Styles and New Employment Opportunities. Candidates might be expected to look, for example, at concepts such as tele-working, call centres, introduction of new digital technology and a range of other ideas, but it is not acceptable to identify, for example, that new technology has created larger amounts of leisure time and then write about various aspects of the use of ICT in leisure.

A number of candidates identified new technologies and then discussed changes in working styles, but did not relate those changes back to the technology, and so missed the point of much of the report. Those candidates producing lists such as this often demonstrated little or only simplistic knowledge of the technologies or their use.

Most candidates were able to identify three technologies, the most common probably being mobile phones, e-mail and the Internet. A wide range of other technologies were also identified, again often centre-based. Many candidates failed to give a basic description of their technologies, possibly feeling that a basic description was implied in the name of the device. For example, very few candidates said that a mobile phone was a portable communication device, rather like an 'ordinary' phone but without the need for landline. The same was true for other technologies.

In attempting to identify advantages of the technologies, candidates often simply described their purpose or use, suggesting that the very existence of the technology was an advantage, rather than giving specific examples. Examiners were surprised to note again that few candidates were able to identify significant disadvantages to the use of technology, with very little mention being made of effects on the environment, job losses and other effects.

Many candidates lost marks through the details of their sources. Although more candidates included lists of sources in this session, these were often trivial, including items such as "the school text book" or "the Internet". Candidates should be reminded that specific references should be included, certainly containing title and author as a bare minimum. Evaluations and validations were generally poor, with some candidates offering responses such as "I checked it to see if it was right" as a validation, which is clearly insufficient.

Task Two: Presentation

This task was worth around half of the total marks for the examination, and required candidates to focus on Personal Communications. Again, a significant number of candidates lost marks through not concentrating their efforts on the prescribed area, but producing generic presentations, which by their nature lacked sufficient depth to achieve more than minimal marks. In a few cases, again often centre-based, candidates produced a report on a different focus area, not mentioning Personal Communications at all.

The emphasis in this task is on types of individuals or groups who are affected by technology, rather than the technology itself, which is covered in Task One. A large proportion of candidates did not describe, or in many cases even identify, the groups and/or individuals affected, thereby losing the low-level marks. Many candidates who did identify groups or individuals did not describe them or identify their use of ICT.

Many candidates, although including ‘Personal Communications’ as a title, did not refer much, or in some cases any, of their evidence to that topic. There were many examples of candidates identifying an acceptable group such as, for example, the disabled, and then discussing generally the effects of ICT on their life, not specifically in terms of communications. This again limited the number of marks that could be awarded.

Many candidates simply produced lists of what technologies were able to do, rather than identifying benefits of the technology. A sizeable proportion of candidates interpreted ‘Consequences of lack of access to ICT’ as meaning ‘disadvantages of the use of ICT’, which is not what was required. Many candidates simply gave examples which were negatives of the benefits identified earlier; again this is not what was required.

The majority of candidates produced a technically competent presentation, with evidence (in the form of annotations) of the inclusion of animations, transitions, etc. There were some fine examples of presentations that were of good quality visually, although the pleasing aesthetics were in some cases a mask for lack of detailed knowledge of the topic. Centres are reminded that there are only a very small number of marks available for technical skill, as this is assessed in Unit One.

Virtually no candidates offered informed suggestions how ICT developments will affect the chosen groups in the future, although a small number did suggest some ‘fantasy’ scenarios but were unable to support their theories.

Again, lack of proper evaluations and details of sources cost many candidates marks. Although a majority of candidates attempted an evaluation, very few if these included sufficient detail or evaluative (rather than descriptive) comment to achieve more than minimum marks. Few candidates validated their sources of information appropriately, and so were unable to achieve the top range of marks. Many candidates described, often using many screen-shots, how the presentation had been produced. This is not a requirement, and is not acceptable as evaluation. There was often little evidence that candidates had used ICT to search for and organise their information.

Most candidates identified some ethical and moral implications of access to ICT, but did not include sufficient detail to achieve full marks. Many simply gave answers such as ‘hacking’ or ‘paedophiles’, assuming incorrectly that mere mention of these was sufficient – the requirement is for explicit links to use of ICT to be identified.

Task Three: Newsletter or Brochure

This task is worth up to 18% of the total marks for the unit and requires candidates to produce a newsletter or brochure on ICT-related legislation.

Most candidates produced visually pleasing documents, with newsletters being the more popular option of candidates. These publications were often heavily reliant on the use of software ‘wizards’ or templates, and the structure of these templates in a number of cases restricted the amount of information that could be included on the document, thereby reducing candidates’ opportunities to achieve marks. Whilst the use of such templates is acceptable for this task, candidates should ensure that those chosen are appropriate for the purpose to which they are being put.

The prime requirement of this task was for candidates to describe the purposes of the various pieces of legislation, and to consider the implications for users. Many candidates lost marks by including lengthy technical details of the various laws. This detail was not necessary, and had often been copied verbatim from a website or other source. Candidates handing in such plagiarism received no marks for this task, as the work was clearly not their own. Centres are asked to reinforce to their candidates that producing work in this way is unacceptable, and in itself goes against some of the legislation about which they are likely to be writing.

Very few candidates, again, included details of the sources of their information, and there was very little evidence of appropriate validation of sources.

Assignment Presentation

The quality of presentation of candidates' assignments was generally good, and tended to be centre-related. Assignments from many centres were well-presented, with candidates' evidence presented in a logical sequence, with pages numbered consecutively and the three tasks clearly divided. This made the marking process easier for the examiner, as well as completion of the assignment a more satisfying experience for the candidate. Some centres, however, presented assignments which were poorly organised and evidence was very difficult to locate. A number of candidates had been allowed by centres, despite earlier requests, to use plastic wallets. Centres are reminded that these should not be used to enclose candidates' work.

Centres are asked to encourage candidates to consider very carefully the fonts they use in the three tasks. Although presentation is not specifically or explicitly assessed in this unit, it is expected that assignments are reasonably well presented. It is likely, for example, that candidates will use a plain font such as Arial, Times New Roman or Tahoma for much of the work, and excessive use of over-decorative fonts should be avoided.

Centres are asked to remind candidates that they do not usually need to include extensive sets of screen shots demonstrating practical skills such as inserting pictures into documents or creating documents using wizards.

A number of candidates added annotations to work in red. Centres are reminded that all additions of this type should be written in blue or black ink, and the use of red ink is not permitted.

A number of candidates attached their research notes, which were sometimes extensive, to their assignments. There is no need for this – as well as increasing the postage cost burden on centres, it makes it difficult for examiners to identify which is the candidates' own work and which is simply preparatory material.

Mark Ranges and Award of Grades

Unit	Maximum Mark (Raw)	Maximum Mark (Scaled)	Mean Mark (Scaled)	Standard Deviation (Scaled)
Unit 1 - ICT Tools and Applications 3850/1	100	100	43.9	21.9
Unit 2 - ICT in Organisations 3850/2	100	100	36.6	23.2
Unit 3 - ICT and Society 3850/3	68	100	48.5	21

For units which contain only one component, scaled marks are the same as raw marks.

Unit 1 (8902 candidates)

	Max. mark	A*	A	B	C	D	E	F	G
Scaled Boundary Mark	100	84	72	60	49	40	32	24	16
Uniform Boundary Mark	100	90	80	70	60	50	40	30	20

Unit 2 (8313 candidates)

	Max. mark	A*	A	B	C	D	E	F	G
Scaled Boundary Mark	100	84	70	56	42	35	28	21	14
Uniform Boundary Mark	100	90	80	70	60	50	40	30	20

Unit 3 (7832 candidates)

	Max. mark	A*	A	B	C	D	E	F	G
Scaled Boundary Mark	100	78	69	60	51	43	36	29	22
Uniform Boundary Mark	100	90	80	70	60	50	40	30	20

Overall (8085 candidates)

	A*	A	B	C	D	E	F	G
Cumulative %	1.6	7.7	19.8	34.7	49.2	63.4	76.5	87.7

Definitions

Boundary Mark: the minimum (scaled) mark required by a candidate to qualify for a given grade.

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 candidate lie in 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).

Uniform Mark: a score on a standard scale which indicates a candidate's performance. The lowest uniform mark for grade A* is always 90% of the maximum uniform mark for the unit, similarly grade A is 80%, grade B is 70%, grade C is 60%, grade D is 50%, grade E is 40%, grade F is 30% and grade G is 20%. A candidate's total scaled mark for each unit is converted to a uniform mark and, when subject grades are awarded in 2004, the uniform marks for the units will be added in order to determine the candidate's overall grade.