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# Examiners' Report

IGCSE ICT (4385)

June 2006

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# ICT 4385, CHIEF EXAMINER'S REPORT

**Paper 1F**

**General comments**

A low entry for this paper makes assessment of responses a difficult task. From the few papers seen, candidates have been entered at the correct level of examination. There were no indications that some should have been entered for the Higher paper. Vocabulary used throughout was appropriate for all centres, and in most cases candidates had given full answers to questions.

**Question 1**
The question was generally well answered. In (a), nearly all candidates correctly placed Input, Process and Output in the correct order. In (b), candidates were able to identify the correct type of devices.

**Question 2**
This question was again well answered with the majority of candidates scoring good marks. In (a), a few candidates discussed mail merge as an option for using a database and most answers were related to storage of documentation and faster access to the system. In (b), candidates' responses showed that this topic had been well covered by all centres.

**Question 3**
This proved to be a difficult question for candidates at this level. Most candidates were aware of the features of a Windows environment but could not expand on their answers to gain both the marks available.

**Question 4**
Candidates were well-versed in the ways to use the Internet, and many candidates gained full marks in (a). In (b), candidates were not too clear about describing the process of sending an e-mail. The examiners suspect that most candidates use it every day without thinking about what happens to it after it has been sent. In (c), candidates' responses were limited to sending mail 24/7 and faster/quicker/cheaper to do. Candidates must be reminded to explain fully what is meant by faster/cheaper type answers, e.g. 'faster than normal post' is an acceptable answer. In (d), nearly all candidates gave the correct sequence for this process.

**Question 5**
Databases appeared to be well liked by candidates. Parts (a), (b), (c) and (d) were generally all correct. Candidates had difficulty in (e), since few gave satisfactory answers related to the advantages of a computerised storage system.

**Question 6**
Candidates' answers for (a) were weak in respect of their ability to discuss the principles of a backup system. In (b), however, they were fully aware of the different types of medium that could be used in a backup process.

**Question 7**
The strength of candidates' answers were very much related to how well a centre had put across this section of the specification. Candidates from some centres gave very good responses here, whilst others were quite weak. In (a), there were good and varied responses to the question of security. In (b), candidates were fully aware of the benefits of networked systems compared to stand-alone machines. In (c), most candidates identified the topology of the network. There were quite a few that could not identify the server correctly and not many could place the printer in the correct place. Candidates would benefit more if centres could spend a little more time explaining where a printer fits in to a network system. It must be attached either directly to the server or to another computer identified as a print server. It cannot form part of the network directly. In (d), candidates experienced difficulty in describing a WAN setup. Most talked about covering a wide area – they must talk in terms of sites miles apart.

**Question 8**
Many candidates were beginning to struggle at this point. In (a), OMR was well covered. In (b), MICR was not quite so well covered. For (c), candidates were well-versed with magnetically-encoded details on swipe cards. In (d), few candidates could relate biometric methods to the accessing of sites. The examiners suspect that they are familiar with the process of fingerprint scanning, but are not able to link it to the term biometric scanning.

**Question 9**
Although placed in the harder part of the paper, most candidates coped well with this spreadsheet question with good responses in all sections. In (d), few candidates could link a spreadsheet to a modelling exercise.

**Question 10**
As in previous years, too many candidates assumed that the price of the product is stored in the bar code. They must realise that the item code is the link to the database system to find any pricing information. In (c), candidates could not explain the steps required if a bar code could not be scanned.

**Question 11**
Candidates were well-versed in the problems associated with viruses. Marks were lost, however, by them not explaining in sufficient detail how the virus was released. For example, an e-mail attachment must be opened, a downloaded file must be run etc.

**Question 12**
Candidates had difficulties with this question. In (a), they were not able to write about the implementation process. In (b), the contents of the user manual were not very well explained. For (c), there was some confusion between validation and verification, but generally candidates gave full answers. For (e), candidates' answers were limited, but acceptable: most talked about use of passwords and physical security methods; very few talked about access levels.

**Question 13**
This question seemed to elicit good responses from many candidates. Parts (a), (b) and (c) had particularly good responses. In (d), candidates seemed not to be aware of an intranet: most thought it was a subsection of the Internet. Others, it appeared, had heard about it but could not give an answer of any depth.

**Paper 2H**

**General comments**

There was a strong entry for the paper this session. The spread of marks for the paper was wide, with some good scores being obtained at the top end. Most centres managed to get some candidates into the higher mark range.

**Question 1**
The opening question was generally well answered. Parts (a), (b) and (c) were mostly correct in the majority of cases. In (d), candidates appeared not to be aware of the term 'biometric scanning'. There was evidence of guessed answers, usually linked to medical factors. Further on in the paper, candidates gave good answers related to 'scanning finger prints for entry'. It therefore appears that it is the term 'biometric' they are unsure about.

**Question 2**
This question was again well answered with the majority of candidates scoring good marks. In (a), a few candidates got the cell for the house price wrong by stating the field containing the title Actual Cost. Parts (b),(c) and (d) seemed to give no significant problems. The topic of spreadsheets seems to have been given good coverage by all centres.

**Question 3**
Most candidates scored both available marks in (a). Where marks were lost, it was because candidates did not give a full enough answer. In (b), most candidates could explain how barcode data was obtained from a computer database by linking to the product code. There are still too many candidates who assume that the price of a product is contained in a bar code. In (c), the majority of candidates gave full answers.

**Question 4**
Candidates were well-versed in the ways in which a virus could enter a computer system. There was a tendency, however, for candidates not to explain the process fully. For example, most candidates could explain that viruses were attached to e-mails, but omitted the fact that an attachment needed to be opened in order to release the virus. In a similar vein, candidates knew that a virus could be downloaded with a file from the Internet but again failed to state that it was released by opening that file. In (b), candidates seemed to understand ways of restricting virus infections.

**Question 5**
There was a mixed response to the different parts of this question. In (a), only the better candidates gained one or two marks in relation to the contents of user documentation. In (b), few candidates could identify suitable contents for user documentation. Answers were generally limited to contents pages. In (c), many candidates were aware of the verification process and gave good answers. In (d), the better candidates were fully conversant with reasons for using codes. Too many candidates, however, still link this form of coding to secrecy. They must be taught the difference between encryption for secrecy and coding for better performance. In (e), candidates' responses were better and a range of good answers was provided.

**Question 6**
This question was well liked by candidates of all abilities and most gained full marks for (a),(b) and (c). Only the better candidates could provide satisfactory explanations about the difference between intranets and the Internet in (d).

**Question 7**
Most candidates answered this question very well. Problems arose in (d) where candidates got the inequality sign reversed, but otherwise there were no major problems.

**Question 8**
This question was badly answered throughout. Candidates appeared not to be able to discuss a control process in terms of Input, Output and Process. Some of the better candidates managed to achieve half the available marks, but most seemed to miss the point of this question totally.

**Question 9**
There was a mixed level of response to this question. In (a), most candidates found it difficult to explain the process of sending an e-mail. Responses in (b) were better; the majority of candidates explained successfully how to send large files. Part (c) for this question was also well answered.

**Question 10**
Generally a well-answered question. Some marks were lost in (a) by candidates not giving full enough answers when explaining the terms LAN and WAN. They must be specific in the range these networks cover i.e. LAN is contained in a building, whereas WAN links to cities etc. Parts (b) and (c) were well answered in most cases. Marks were lost in (b)(i) for the Bus Network because terminators were not mentioned; and in (b)(ii), candidates placed the printer in the Ring Network instead of linking it to the server or identifying a print server. Part (c) was well answered by the majority of the candidates.

**Question 11**
Most candidates gave good responses to this question, despite it being at the end of the paper. There was some confusion in (b), where candidates failed to refer to the infringement of software copyright. Some candidates gave answers related to copyright of other products and services.

**Question 12**
Candidates had difficulties with this question. In (a), they were not clear about what an operating system is. Some reversed the phrase to say it operates the computer. This form of response should be discouraged. In (b), the better candidates were able to describe the functions of an operating system. For (c), few candidates could make an effective comparison between a Command Line Interface and a GUI.

## Set Tasks and Projects

### Set Tasks

A detailed report on the individual tasks will be included in the examiners' report for the November examination. The following advice deals with presentation of the work and is applicable to both the 2006 and future papers. Following the advice may enable some centres to reduce their workload and improve their candidates' marks.

- The Set Tasks do not need to be bound. They are best presented as loose leaf in an A4 plastic pocket or document wallet. Markers need to be able to compare pages, e.g. Design and final product. This is much easier with loose pages. If staples or other fastening methods are used, care should be taken not to obscure or damage the work.
- The Set Tasks and Projects should be submitted as two separate bundles of work. They are very unlikely to be allocated to the same marker. Putting a candidate's work into a single binding must be avoided as the Set Tasks will have to be removed and this may result in the work being damaged.
- All pieces of work should be clearly labelled with the candidate's name, number and task identification. The task identification becomes essential if a candidate does not complete all of the tasks, as it can sometimes be hard to work out which task the candidate thought they were doing.
- Extra work must not be submitted. There are marks for sticking to the required number of pages. **There are no marks for anything which has not been specifically asked for in the tasks**.
- Anything that the candidate thinks is worth a mark should be annotated, explained and presented in task order. Markers do their best to find everything which is worthy of a mark but some candidates have the ability to present their work in the most obscure and muddled way possible.
- All of the tasks have a design element. The correct sequence of events is design it first, make it afterwards. Doing things in reverse order often results in lower marks.

### Projects

The majority of the work was presented in a satisfactory manner, but the following guidelines may enable some centres to improve their candidates' marks.

- Each project should have a cover sheet, clearly labelled with **at least** the candidate's name, candidate's number and the centre number. A completed version of the IGCSE ICT coursework cover sheet would be suitable for this purpose. The sheet may be downloaded from: http://www.edexcelinternational.org/VirtualContent/82378/ICT_coursework_cover_sheet.pdf
- Projects should be securely bound. Spiral binding or secure stapling will usually suffice. A single treasury tag or length of string is not really sufficient as pages can easily be detached when the project is handled.
- Projects should have a contents page and matching page numbers. These could be written in by hand when the project is finished. It is not compulsory, but it is always useful to know where candidates think they have put the different sections of their project.
- Projects should be presented in a logical order; preferably Identify, Analyse, Design, Implement and Evaluate.

It was obvious that a number of candidates were still submitting GCE O Level style projects. There is no prohibition on this, but candidates must be made aware of the differences in the specification between O Level and IGCSE. Much of the work in an O Level project is superfluous to the IGCSE requirements and therefore gains no marks, e.g. most of the systems analysis. On the other hand, the IGCSE requires much better evidence of the design and production process. An O Level project would require a substantial rewrite to gain the same degree of credit in the IGCSE.

It was also obvious that a number of centres had provided their candidates with a project template. This is not prohibited and the IGCSE Coursework Guide for Students could be regarded as being such a template. The guide may be downloaded from:
http://www.edexcel-international.org/VirtualContent/83088/ICT_guide.pdf

Problems with templates arise in two ways:

- Firstly, if the template is incomplete. This results in candidates being unable to access some parts of the mark scheme because the template that they are following does not include the relevant sections of the project.
- Secondly, if the template contains too much detail. Section and subsection headings, with some guidance as to the appropriate content, will usually be acceptable. But, **once centres start to give suggested wording or diagrams, markers are likely to refer the projects to be investigated for possible collusion, and candidates are in danger of scoring zero for the Set Tasks**.

**Identify**
Most candidates were able to identify a suitable problem, but it was clear that many of them had reverse-engineered the whole project by making the application first, and then arranging the other sections to fit what they had done. This nearly always results in the candidates losing marks by having weak Identify, Analyse and Design sections. Many candidates failed to identify their user fully. Higher band marks require identification by name, not just by the company or group. User requirements or objectives were often generic and untestable. Proving that a system can find a record in 30 seconds, or that fewer staff are needed is very difficult to do.

**Analyse**
Access to higher band marks in this section is via the words 'fully explained'. Candidates should be reminded that the markers do not know them, do not know their users, have not seen the applications running, and only have the written accounts to look at. In particular, alternative outputs were rarely explored and when this was done, the alternatives proposed were often of the type ‘screen versus printout’. Alternative screen layouts, report formats or other variations on one type of output were rarely considered. There were some good attempts at data flow and system diagrams, but descriptions of the collection and manipulation of the raw data were often incomplete. Where candidates identify multiple raw data types or sources, they should try to include all of them in their write-up.

**Design**
Candidates should go through the process of making initial designs, showing them to their user, getting some useful feedback, then making the final designs. Candidates who actually did this were in a distinct minority. As with Analyse, candidates should be reminded that the markers only have the written account to look at. **If Design is missing, the candidate scores no marks**. Furthermore, if there is little or no design, the marks for Implement will be low, since they depend on a design being followed. Testing was another weak area. Many candidates simply listed a set of validations. The test plan may well include such validations, but it must also specifically test the objectives or user requirements given in the Identify section.

**Implement**
This section should be considered in three parts. Firstly, candidates need to show clear evidence of a production process, not just present a finished product with no information about how it was made. Secondly, they should clearly demonstrate that the design has been followed and the objectives met. This will be difficult if there was no design or only vague objectives. Thirdly, the test plan needs to be followed and evidence given for the result of each test: simply claiming that it worked is not worthy of marks.

**Evaluate**
The evaluations were generally weak. A lot of candidates did refer back to their original objectives and claimed to have met them, but very few gave any evidence to back up these assertions. A few page references would have sufficed in most cases. Most candidates did not produce evidence of user feedback. Many had unsigned letters or reported comments but this is not enough to access the higher band marks.

## ICT 4385, GRADE BOUNDARIES

| | A* | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|
| **Foundation Tier** | | | | **55** | **48** | **41** | **35** | **29** |
| **Higher Tier** | **80** | **70** | **60** | **50** | **41** | **36** | | |

**Note:** Grade boundaries may vary from year to year and from subject to subject, depending on the demands of the question paper.

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