GCSE EXAMINERS' REPORTS

ICT

SUMMER 2013

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Unit 1

Understanding ICT

General Certificate of Secondary Education

July 2013

Chief Examiner: K Butcher

General comments

The paper was very well answered by the majority of candidates. New topics were introduced and all questions were generally well answered. Candidates made a good attempt at answering questions and demonstrated very good examination techniques.

Comments on individual questions

Q.1   (a)   This question was well answered by almost all candidates, and the correct features of Desktop Publishing software were selected.

(b)   Very well answered. Candidates correctly answered the question by stating that Thesaurus was the correct answer.

(c)   This question was not answered well in most cases.

Q.2   This question was answered extremely well by most candidates. The tick box format made it easily accessible and candidates understood the difference between data, information and knowledge.

Q.3   (a)   Candidates answered this question well and clearly knew the uses of GIS.

(b)   The disadvantage of Bluetooth was well answered, however for the advantage; many candidates were giving a use rather than an advantage.

Q.4   Most candidates found this section extremely accessible as similar questions have been asked previously. Some candidates did confuse records and fields.

(a)   Well answered.

(b)   Well answered.

(c)   Well answered.

(d)   Well answered - to make each record unique was given by almost all candidates.

(e)   Well answered, candidates were easily able to identify the data type as Text.

<table>
<tr><td>(f)</td><td>Fairly well answered, however some candidates are still answering with just the word space and also incorrectly using the word write instead of type which is not accepted.</td></tr>
<tr><td>(g)</td><td>Well answered – candidates understand the format of this question as it has appeared on pas papers. Some candidates lost marks due to spelling the search criteria incorrectly.</td></tr>
<tr><td>(h)</td><td>Most candidates gained at least two marks here – however candidates did not always achieve full marks as even though they correctly identified that a range check could be used they did not explain how e.g. 1-31 and marks were lost due to this.</td></tr>
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Q.5 (a) Very well answered by al candidates.

(b) Fairly well answered and most candidates could clearly explain blind carbon copy.

Q.6 (a) Extremely well answered.

(b) Fairly well answered although many candidates were answering with advantages and disadvantages to the customer rather than the company.

(c) Well answered.

Q.7 Most candidates were able to give at least one advantage and a disadvantage of a biometric registration system.

Q.8 Fairly well answered. Most candidates found this question accessible. Advantages of using a spreadsheet were not always correctly answered. Many candidates answered part (e) incorrectly and did not give the correct answer of absolute cell referencing.

Q.9 Poorly answered by most candidates. Even though temperature was in the question and therefore could not be given as an answer – heat/temperature answers were seen frequently. Candidates also confused a movement sensor with a light sensor and were incorrectly stating that a light sensor could be used to turn on lights when someone entered the classroom.

Q.10 (a) Fairly well answered although brand names were appearing in the candidate's answers.

(b) Uses of social networking were very well answered.

(c) The first part of the question was well answered – the majority of candidates could state what a webcam was. Some candidates struggled with a use of a webcam for home entertainment.

(d) Well answered by the most candidates. Some candidates gave incorrect answers such as obesity and addiction which were not accepted. Also the same prevention was in some cased repeated throughout – e.g. take regular breaks, which could only be accepted once.

Q.11 (a) Poorly answered by most candidates. Candidates were not describing the features of online assessment and tutorials well – answers were not detailed and many candidates lost marks due to this.

(b) Really well answered. Candidates were easily able to give advantages and disadvantages of online tutorials and assessment. The majority of candidate's answers were very detailed and showed an in depth knowledge of the subject and in some cases well above GCSE standard. Candidates showed good knowledge of this topic.

Unit 2

Solving Problems with ICT

General Certificate of Secondary Education

Summer 2013

Chief Examiner: N Kay

Controlled Test

GENERAL COMMENTS

More centres submitted candidates work electronically but the option is there to submit on paper.

Centres must ensure that all work that has been awarded marks is present on the electronic versions submitted and that they are well organised and easy for moderators to follow.

Many more centres submitted the one sheet marking grid or their own version of the grid and these proved very useful in supporting Centre marking.

Some Centres only completed the official banded mark form from the WJEC but this gave no indication of where the Centre had actually awarded the marks. Comments from the Centre as to which features marks were awarded for would aid the moderation process.
Most centres have a good understanding of the requirements of the controlled test and most assessed fairly accurately.

The following comments may help not only the centres that were scaled but centres that were very close to being scaled but were within the tolerances set by the WJEC.

Note that the '*shelf life*' of each controlled test is only 2 years from the date of release. Some centres submitted work on the 'Holidays' controlled test which was out of date.

FILE HANDLING

Most centres provided good evidence but candidates should show the process of backing up onto an external device.
The organisation and presentation of the folders and subfolders structure was much improved but there are still some candidates who mix folders and files up so they should not be given the organisation marks.
It was difficult to support some marks awarded to candidates as *'careful version management'* when there was only one copy of the research, spreadsheet, database or evaluations
There should be evidence of **two** different folder operations e.g. copy, move

RESEARCH AND DATA COLLECTION

For full marks in searching the internet, there are a minimum of three screenshots required of searches and their results

- *1 key word search using a search engine*
- *A second keyword search for a different purpose using a search engine.*
- *1 URL search showing the keyword search box empty and typing the URL address directly into the address bar.*

Candidates still tended not to show the whole process but only the end result and hence marks could not be supported.
A popular option this year was to do questionnaires as their printed/non ICT source.
Sources logs should have more than 2 links.

EMAIL

Again some of the screenshots again were barely decipherable. Candidates must produce evidence of emailing; the centre saying they did it is clearly not sufficient. Candidates should follow the requirements of the specification and not just provide 'User manuals' on how to do email.
The email must be in line with the requirements of the controlled test task.
The mark for using a contacts list is not for selecting a contact.   It is for using a contacts list to add and amend and delete entries. All three must be evidenced.
It seemed to be common that formative evaluations contained within emails were generally very weak and very limited. They tended to be of a general nature and would do little to help the candidate show they had responded to those comments in improving their individual work.
Some candidates within a centre managed to have word for word bulleted identical comments.

COMMUNICATING INFORMATION
Formative evaluation: (8 marks)
NB These are added to the 7 marks for summative evaluation on the WJEC banded recording sheet. IT2

Own comment on document to improve it	2
Comments from others on document to improve it	1
Evidence of responding to comments in document	1
Own comment on web or presentation to improve it	2
Comments from others on web or presentation to improve it	1
Evidence of responding to comments in document	1

Comments from others and own comments to improve the work.

Although this was stressed in this report last year and at INSET, it is still an area where many centres are generous with their marking.

Comments were again **very** weak and general e.g.*' Change the font/add more text/add more pictures.'*
Such general comments are not worthy of a mark.

Some centres seemed to adopt a system where if they wrote anything; no matter how brief and unconstructive; they gave the candidates the mark. This is an area which needs to be improved with more in depth comments and suggestions for improvements.

Drafts and final documents

Most candidates produced drafts and final documents although sometimes it was difficult to know which was which; there seemed to be very little difference between them.
Again centres should note the following;

'Accuracy and plausibility and fitness for purpose of document'

Some documents had many spelling and grammar mistakes and the information and pictures where not fit for the controlled test purpose and yet marks were awarded freely.
If the document or presentation produced does not match the requirements of the controlled test this should not be awarded.

As last year most of the basic features could be seen. Only features which appear on the final document or presentation should be credited.

- Insert, crop or resize and position an image fit for purpose needs a before and after screenshot

If submitted on paper.
- on a web page or in a presentation, sequence a set of events needs a screenshot showing the selected custom animation

Advanced features

Evidence was generally clear but it is still worth noting a few points.
- use a **second** different source for data . Some centres used original animations or sound but evidence of these was needed.
- headers or footers must appear on final document **on more than one page or slide.**
- page numbering **on more than one page or slide** must appear on final document.

MODELLING
This tended to be well done with most candidates gaining the maximum marks for basic features and most gaining advanced features.

Explanation of formulas/function/feature used must not be general and should not be credited e.g.

- **Sum is used to add up the range of numbers = 0 mark band**
- **Sum(B2:D2) is used to give the total points gained = 1 mark band**
- **Sum(B2:D2) is used to give the total points gained by adding up the points given for goals, assists and appearance = 2 mark band**

Accuracy and plausibility mark should only be awarded if the candidate covers all the requirement of the controlled test for the modelling task.

Some candidates still MUST screenshot or print out their spreadsheets **in formula view;** if they do not, any formula marks or relative referencing marks are not available to them

What if investigations are still a problem area.
What if investigations need **to have a reason** for undertaking them **and a conclusion**. Candidates should not change data or formulas without a purpose and they must discuss the knock on effect of the changes they have made. Not just say 'everything changed'/'totals changed'. They must state the total before and after the investigation.

Advanced features
Again it was often left to moderators to detect these features. Candidates or centres should annotate their work or provide evidence to show what they have done.

DATA HANDLING

Basic features
This was generally accurately marked

Produce lists
Please note that only the **database, the searches and the sorts required by the controlled test task** should be given any credit.

Advanced features
The following should **have reasons why the data produced** as a result of these operations is needed. If there are no stated reasons for the search or sort no marks should be given.

- use logical operators and at least one wild card/parameter search
- sort on multiple fields

EVALUATION

The marks for the formative evaluation earlier (8 marks) are added to the seven marks for the summative evaluation on the banded IT2 form.

Summative evaluation (7 marks)

Although the majority of centres accurately mark this section, there are still some candidates and some centres who do not understand that an evaluation is not a description of what they have done. It is a critical consideration of what has added value to their solution, what detracts or is poor about what they produced and concrete suggestions for improving their work. Candidates are expected to write a critical evaluation on each of the following, not just make one brief comment on each.

The summative evaluation should cover the following:

- analysis of data and information used in modelling (*Data/formulas graphs)*
- analysis of data and information used in data handling *(Keyfield. extra fields+ data validation)*
- Concrete suggestions for improvements *(modelling and data handling)*
- evaluation of other tools + techniques *(all tasks: Final choice of DTP features/ investigations/ sorts/ searches / etc)*
- review of feedback *(Just a statement saying they considered improvement)*
- analysis of research methods/ data collected/data used (Internet/ paper sources/email)
- evaluation of working practice *(data protection/security/health and safety).*

Unit 3

ICT in Organisations

General Certificate of Secondary Education

Summer 2013

Chief Examiner: M Thomas

Q.1   Well answered. Most candidates were able to name the devices shown and state whether they were used for either input or output.

Some candidates named the webcam as just a *camera*, which was not accepted.

Q.2   (a)   (i)   This question was quite well answered although some candidates are still naming the features of a graphical user interface, such as *windows, icons, menus and pointers* as opposed to naming the type of interface.

            (ii)   Most candidates were able to name features of a graphical user interface, with *WIMP* and *customised desktops* being popular answers.

    (b)   Some candidates answered this question well and were able to name and give different advantages for their chosen types of HCI.

A number of candidates chose *menu driven interface* and then proceeded to state that an advantage of this type of interface is that it was *easy to use*. This answer was condoned in this session but will not be accepted in any future examinations without further qualification, for example *easy to use as the navigation is simplified*.

Q.3   (a)   Very well answered.

A number of candidates gave *circle topology* as their answer for the third topology, which was not accepted.

    (b)   (i)   Very poorly answered. Only a small portion of candidates were able to describe the purpose of a *switch* in a computer network, with most candidates confusing the device with the power switch on a computer.

            (ii)   Poorly answered. A significant number of candidates seemed unfamiliar with the term 'gateway'.

            (iii)   Poorly answered. A significant number of candidates seemed unfamiliar with the term 'bridge'.

    (c)   (i)   Quite well answered.

            (ii)   Quite well answered.

(d)   (i)   There was a clear improvement in candidates understanding of an intranet compared with previous   examination sessions.

        (ii)   Quite well answered.

Q.4 (a)   Very well answered. Most candidates had a clear understanding of the advantages and disadvantages of computerised data logging.

      (b)   This question was quite well answered. The most popular ICT control system being a *home central heating system* or *controlling the temperature in a greenhouse*.

        (i)   The first part of this question was answered well, although a significant number of candidates gave *thermometer* as a senor for their chosen ICT control system. This was not accepted. Suitable correct answers include *heat* or *temperature* sensors.Some candidates seem to have difficulties when naming a suitable output <u>device</u> for their chosen ICT control system, with many naming *heat* as their chosen output device, which was not accepted.

        (ii)   The marks awarded for this question tended to be polarised with many candidates fully understanding the processes involved in an ICT control (feedback) system. Other candidates were unable to use the diagram provided correctly and were awarded 0 marks.

Q.5 This question was poorly answered. The most common misconception being that an expert system is a type of life support machine used to continuously monitor a patient's condition.

Q.6 (a)   This question was quite well answered with most candidates being able to name three tasks carried out by a robot.

           Some candidates failed to qualify their answers by stating that a robot might be *used in dangerous environments*. As this is an advantage of using robots – not a specific task - this was awarded 0 marks unless a suitable example was given, such as *bomb disposal*.

      (b)   This question was well answered. Popular answers included the fact that robots can *work 24/7* and that *employment costs are reduced*.

      (c)   This question was well answered. Popular answers included the fact that robots have *a high initial cost*.

Q.7 (a)   This question was poorly answered. Some candidates were able to state that an operating system is used to control a computer, but very few candidates answered that an operating system is a *software*.

      (b)   This question was poorly answered. As most candidates were unfamiliar with the term 'operating system' they were unable to give three of its functions.

Q.8 (a) Very well answered.

(b) Most candidates were unfamiliar with term *leader board*.

A popular incorrect answer was *advertisement banner*.

(c) Very well answered.

(d) (i) This question was quite well answered although a number of candidates were unable to fully describe the term 'golden triangle'. In particular, the fact that the area the users look at first is *where search engine results are displayed*.

(ii) Very well answered.

Q.9 (a) Very well answered.

Some candidates incorrectly answered this question by naming digital imaging programs.

(b) Very well answered.

(c) Very well answered. Candidates were confident in their use of technical terminology such a *pixels*.

(d) Very well answered. Most candidates were familiar with the problems associated with enlarging a bitmap graphic and that vector graphic types resolve this problem.

(e) Quite well answered.

A number of candidates incorrectly wrote that optimisation improves the quality of an image.

Q.10 (a) Very well answered. MP3 being the most popularly suggested music file type.

(b) Well answered.

(c) Well answered.

Q.11 Many of the candidates where able to give a clear, coherent answer fully discussing advantages and disadvantages of an e-commerce system to the customer and Smash Hits. Most candidates were also confident in their use of appropriate terminology and accurate spelling, punctuation and grammar.

In particular, it was noticeable that candidates are qualifying their answers better by stating that e-commerce is advantageous as it *saves travel time* or *saves travel costs*. In previous sessions this has not been the case with similar type questions, where candidates have merely said that it is advantageous to *shop from the comfort of your own home*.

Some candidates went into detail by discussing the effects of network downtime on Smash Hits' finances and the difficulties that can result in the use of third-party delivery companies.

Unit 4

Developing Multimedia ICT Solutions

General Certificate of Secondary Education

Summer 2013

Chief Examiner: N Kay

Controlled Test

Centres should remember the shelf life of the controlled test is two submission years from when it is released.

Centres should use the broad context set by the controlled test and not produce totally unrelated websites and presentations.

Centres are reminded that samples of work should be submitted **<u>electronically</u>** not in printed form.

If websites are not published to an intranet then it is preferred that a USB is submitted as CDs and DVDs can be extremely slow to load. Centres should remember to label their Centre No on the USB or disc.

Centres should publish the final websites so they are in a finished and readable form.

Moderators should not be expected to download software and go through the original work files to find evidence of features.

Candidates should be encouraged to organise the work in their folders so they are understandable and easy to find evidence.

Centres need to consider how they are going to publish the websites especially for the moderator to assess. Of the many websites and presentations seen very few ran as completely as they should. Videos and animations in websites and even in PowerPoint presentations rarely worked. Therefore the supporting evidence reports became crucial in supporting centre marks.

The report containing screenshots of features was invaluable. These need not be a complete record of every little step a candidate took but provide sufficient evidence of features used. A candidate statement saying *'I did this etc.'* is not sufficient if the features cannot be demonstrated on the final website or presentation.

Some of the websites and presentations were of a very high standard.

ORGANISATION OF FOLDERS AND FILES

Many of the issues this year were the same as outlined in last year's report.
Sensible naming of files and folders: this requires the moderator to be able to anticipate what might be in the file. If the file says 'pictures' then it should not contain a sound file.

Evidence of backup folders on an external device: Just saying *'the technician backs it up at night'* is not good enough. If this is the interpretation taken them specific details of times, procedures and discs are required.

Demonstrate careful version management: this applies to the majority of files not just one file.

Sources log; this came in many forms and was generally ok.

RESEARCH AND DESIGN

Analysis of websites

Again this was generally well done

Describe the target audience of each.
Candidates should be encouraged to be more specific. General phrases like customers / people are too vague. They need to say what age group/ specific group of people etc.

Compare and contrast multimedia or web features.
As last year this proved to be a problem area. I repeat what was said last year.

- Candidates do ***not need to identify data/ pictures/logos for this section***. They should identify multimedia e.g. flash animation/movies/podcasts etc. or web features hyperlinks/hotspots/shopping trolleys etc.
- Having clearly identified them on the website **by drawing an arrow to them** not just listing them as a set of bullet points. Some centres set up a table and had pupils copy and paste a screenshot of the feature into the table and label it. This was quite a useful way of doing the analysis.
- Having identified the features, for maximum marks, they had to compare four similarities and four differences between the features on the websites. If they had not labelled the feature in one of the two ways outlined above then they should not be awarded any marks in this section.

Identify file type and file size of two different features on the websites.
Again this section was not well done.
- These could include images or multimedia/web features
- They could be on one web site they do not need two on each site.
- They must be **different types – not 2 jpegs**
- They must also **identify or indicate the size of the file as well as the type.**

Research individual presentation or web page

This was quite badly done except for the moodboard. This is a design phase and there **must be evidence of planning and design**. No design marks can be given for an implemented system i.e. it cannot be inherent.

Candidates were expected to write a paragraph about the purpose of their web page or presentation. This should include purpose and target audience

Candidates are expected to explain how or why their solution is fit for purpose and audience. They should describe the content of each slide or web page.

Candidates were expected to hand draw the design of a master page and scan it in or use a paint type package **or** use DTP features to design in outline their master page.

1 mark basic layout
1 mark adding navigation features to be used

Collection and design of mood colours/moodboard
This was done well but some centres need to note that the moodboard should contain investigations into colour schemes, font styles and imagery, not just colours.

IMPLEMENTATION
Please note the comments made under general points about publishing the website or presentation. Only features present on the webpages or presentation should be awarded marks.

Again it was a similar picture to last year but a few centres do not understand the basic requirements of the specification.

In outline they should;
- Create a master page or master slide with navigation features.
- Enter text fit for purpose on each slide or web page.
- Create two different original images, one simple and the other using at least three layers. The simple image cannot form part of the complex one. Provide evidence of features used to create them. Consider compression choices for both
- Create a detailed storyboard for a first original animation.
- Create **the first** original animation and provide evidence of features used to create it. Consider timings and frame rate.
- Create **a second different** animated banner
- Use and manipulate sound files.

Other advanced features can be used to enhance the basic requirements outlined above.
- Evaluate their work

Most of this is well done but a few centres double count or even triple count one feature especially with regard to images and animation. I repeat the following from last year's report.

IMAGES

Generally well done but evidence of the use of at least 3 frames should be included for complex image.
Create two original images such as a logo or web icon or other image and optimise it save it in appropriate format. Most candidates created 2 clearly different images but many did not show any evidence of consideration of compression formats used. They should not be given the second mark for each image if they have not screenshot evidence and discussed this process.

Illustrate the techniques used to create each range of software tools.
Sometimes it was clear what tools they used (shapes/fill/text) but other times moderators could not support the centre marks. It would be useful if pupils annotated their images to say what unusual tools they used, they should provide construction evidence e.g. lighting effects, removal of backgrounds etc

ANIMATIONS OR ANIMATED MOVIE

In general these were very well done and candidates produced some very original animations.

An animated movie is not using still photographs to make a movie.
It is using movie making software to make an animation.

Create a storyboard **for the animation**. Some centres interpreted this as a storyboard for a movie which was acceptable if the movie software was used to make an animation.
The second mark was for planning the frame rate and/ or timings involved in each frame group where this was attempted it was well done but some Centres gave two marks when frame rates/timing were not planned.

Two animations are required. Some centres created an animated banner combining graphics and text and counted this as both their main animation and their banner. **This is not acceptable**. Animations need clear evidence of features used and this is up to the candidate to provide. Many moderators struggled to see use of features for which the centre had awarded marks.

Complex animations require complex movement not just cars moving straight across six frames.
Many centres misunderstood the backdrop mark in basic features to that in advanced features.
- In the basic features there is a background which does not move.
- In the advanced features the **background moves as well as the animation** in front of it.

Very few candidates explained their timing and/or frame rate which they went on to use but centres still awarded the mark.

SOUND

Create and manipulate sound or music
Centres approached this in a variety of different ways. But it was generally well understood. Candidates could gain the three basic marks in one of three ways.
Use a sound file from a library / background to a movie. = 1 mark

The other **two** basic marks could come from **two** of the following;
- One simple edit on sound e.g. crop
- Second simple edit on sound e.g. change volume
- Discussion of compression used / or of movie compression if sound is in movie
- Extended discussion and justification of compression used and evidence of experimenting with different file compression types.

Advanced features
A wide variety of advanced features were used.
Most of the evidence for advanced features was generally provided in the report. However some centres appeared to award marks for advanced features when little or no evidence was provided and their marks could not be supported.

EVALUATION

These were generally better marked than last year. Centres are becoming more demanding before awarding marks. Teacher comments would be useful in describing where they awarded the marks.
Evaluations should not be a description or log of what they did but should evaluate the good points and be critical of the weak points in their solutions. They should suggest concrete future developments, not just say add more pictures, add a video, add another animation etc.
However, some candidates were given full marks when some of the main sections were not covered e.g. how to publish.

For full marks; all of the following sections have to be covered.

Evaluation of solution (website or presentation/ images/ sound /animations movies data)
- **description** of the suitability and effectiveness of the features analysed
- **evaluation** of tools and techniques used
- **justification** of choice of image, movies, sound and animation optimisation.

Critical analysis and problem solving
- suggestions for **improvement**
- review of feedback given and received
- comments on modifications made

Publication
- **consideration of download/upload times and file size** (compression/optimisation)
- **consideration of output to the web**

Summary evaluation
- **evaluation of effectiveness** of final solution (fit for purpose?)
- **evaluation of working practice** (research/ organisation /safe working)