



GCSE EXAMINERS' REPORTS

**INFORMATION AND COMMUNICATION
TECHNOLOGY**

SUMMER 2016

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ICT
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UNIT 1

Comments on individual questions

- Q.1 (a) This question was fairly well answered by most candidates and many achieved two out of the three available marks. Most candidates were able to give presentation software and word processing software as correct answers, however many could not correctly give data logging as the third answer with many answers seen being databases and spreadsheets. Again, brand names were given which cannot be accepted.
- (b) (i) This question was very well answered by all candidates. Candidates could easily identify features used on the poster. The tick box format made the question easily accessible by all candidates.
- (b) (ii) This question was well answered by candidates who read the question correctly. Many candidates assumed it was a similar question that had been asked before and they incorrectly gave different types of software that could be used to assist in organising the summer fayre such as databases and spreadsheets. The question was looking for two different types of desktop publishing documents that could be used to help organise the fayre. Some candidates gave extremely creative answers such as creating certificates for the most amount of money raised and also creating maps to guide the user around the stalls.
- Q.2 (a) This question was well answered. Most candidates achieved the second mark for being sent over the Internet. Centres should note – looking for electronic messages/letters for the first mark.
- (b) Most candidates found this question very accessible due to the tick box format. However, the majority of candidates incorrectly ticked that you can add attachments of any file size to an email.
- (c) Many candidates were able to give a misuse of email and a prevention. Some very well written responses were given here.
- Q.3 Extremely well answered by most candidates. Some candidates did confuse the information and knowledge answers.
- Q.4 This question was poorly answered by many candidates. Candidates were giving uses rather than advantages. For example, a popular response was that GIS can help plan the shortest route – this response in itself holds no tangible advantage, and to achieve the mark the extension “to save money on fuel” could be added.

- Q.5 (a) Most candidates found this question accessible and the correct answer was given by most candidates.
- (b) This question was poorly answered and only a minority of candidates correctly gave the number of Boolean fields in the database.
- (c) This question was very well answered with most candidates achieving full marks.
- (d) Candidates mostly answered this question correctly. The field name was the same and candidates dealt well with this. The search criteria were mostly spelt correctly too which meant many candidates achieved full marks for this question.
- (e) Extremely well answered by all candidates.
- (f) Fairly well answered with almost all candidates able to state the problem with the database. Many candidates achieved at least two marks here with marks being lost for either not stating the range for the drop down list or range check.
- Q.6 (a) Fairly well answered by most candidates – many candidates gave the correct answer of currency, however many simply stated what was in the cell.
- (b) Well answered by most candidates with the correct answer of merging cells being given.
- (c) Well answered by most candidates.
- (d) Well answered – most candidates were able to give the correct formula.
- (e) At least two marks were gained by most candidates here. Popular answers included accurate calculations and automatic recalculations.
- (f) Unfortunately this question was very poorly answered by most candidates who attempted it. When marks were achieved, it was mostly one out of the available two marks and was given for the absolute cell referencing point rather than the relative cell referencing.
- Q.7 (a) Fairly well answered by most candidates. Candidates were able to give specific advantages and disadvantages of both biometric and swipe card registration. Where candidates lost marks it was mainly for confusing the advantages of the two registration methods.
- (b) The advantage of a VLE was poorly answered by many candidates as they were giving a use of a VLE rather than an advantage. The disadvantage was well answered in most cases with popular answers including “If pupils don’t have an Internet connection, they cannot access from home”. Therefore, many candidates achieved one out of the available two marks.

- Q.8 This question was answered fairly well by many candidates. The definition mark was not always correct and quite poorly answered. To achieve the definition mark, candidates needed to give the idea of there being a camera used over the Internet for real time communication. Examples of incorrect answers were where the candidate stated it was a camera used to talk to friends. The use and disadvantage part of the question were well answered, however for the advantage mark, many candidates simply discussed the fact that you can keep in touch with people all around the world and did not explain that you can communicate face to face and actually see who you are talking to.
- Q.9 (a) Most candidates were able to give two items of data required for online booking and achieve two out of the available four marks. Marks were mostly lost here due to the verification methods. Many candidates lost marks by incorrectly stating that a field such as First Name could be verified using double entry keying whereas the only two accepted fields were email address and password for this verification type. Marks were also lost due to repeating the verification method twice.
- (b) Very well answered with many candidates achieving full marks for the advantages of online booking.
- (c) Very well answered by most candidates with fake/fraudulent websites that would steal your payment details being a popular correct answer.
- Q.10 This question was well answered by most candidates. The responses for this question were impressive and there were some excellent answers given. The correct terminology was mostly used and there were very few spelling, grammar and punctuation errors. The majority of candidates attempted this question.

Almost all candidates could easily give three input devices used in online gaming and popular responses here included steering wheel, mouse and keyboard.

The health hazards section was answered fairly well however this was the section of the question where most candidates sometimes lost marks. This was because most candidates simply stated health hazards and did not explain how they could be caused. An example would be just stating eye strain and RSI and no explanation of how they are caused. The prevention mark was mostly answered correctly, however marks were lost by candidates giving repeated preventions.

The advantages and disadvantages were mostly well answered and many candidates were able to give at least two advantages and two disadvantages of computer gaming. Marks were sometimes lost due to candidates giving responses that simply discussed health hazards as disadvantages which had been ruled out in the question and therefore the candidates were unable to gain the full mark allocation for this section. Candidates gave some impressive responses to this section of the question which were sometimes well above the GCSE standard. Examples included a detailed description of addiction and the consequences this could bring to the gamer. Advantages were also very well written and popular responses here included detailed descriptions of how computer gaming can encourage skills such as teamwork and how gaming can improve a gamer's hand-eye coordination skills.

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General Comments

Most Centres have a good understanding of the requirements of the controlled test and most assessed accurately.

Centres should ensure the reports go to the person responsible for GCSE ICT. Some Centres who misinterpreted the mark scheme were making the same mistakes as in previous years.

Many more Centres now submit their work electronically. The candidates work should preferably be on a USB storage device which is quicker to load and less likely that the disc will break. Folders should be well organised and the candidates must ensure they are coherent and evidence is easy to follow and find.

Teacher comments are still needed to support the marking. Comments from the Centre as to which features marks were awarded for, would aid the moderation process, especially in the DTP tasks.

Those Centres that used the one sheet marking grid or their own version of the grid were generally more accurate and moderators could clearly see where marks had been awarded. This is downloadable from the WJEC website.

The main problems found by moderators were not new and were the same as previous years.

FILE HANDLING

Most Centres provided good evidence but some areas need highlighting.

- Evidence of backup folders on an external device. Screenshots should show the end process not just the copying. The screenshot must show the root folder not just one file saved on a USB or external device/different network drive.
- Demonstrate careful version management: this applies to the several files **not including** the draft and final DTP / presentation documents they are already required to do.
- There should be evidence of **two** different folder operations e.g. copy, move

RESEARCH AND DATA COLLECTION

- Source logs should have more than 2 different types of link. Candidates should be encouraged to show about 4 links at least with a variety of types e.g. some links to websites and some to pictures.
- 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
 2. A second keyword search for a different purpose using a search engine.
 3. 1 URL search **showing the keyword search box empty** and typing the URL address directly into the address bar. This is generally misunderstood with screen shots of pages of links. There should be no produced links on this screenshot.
- Questionnaires must be filled in to show they had acquired information. Blank questionnaires should not be awarded marks.
 - The same applies for email. Emails should be to some external source and not the peer group as in the later section. They should also have received a reply with some information in before they can be awarded a mark.

EMAIL

Again some of the screenshots again were so small as to make them hard to understand.

The email must be in line with the requirements of the controlled test task. It is not a task about emailing. It is using a variety of email facilities to gather opinions about their first drafts. Some Centres show screenshots of candidates doing email activities but have no content or no content which has any bearing on the stated task in the examination controlled test paper. Therefore they should not be awarded any marks.

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.

As in previous years the quality of the formative evaluations were so poor as to hardly warrant a mark, and did nothing to improve the standard of the individuals' work.

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.

Formative evaluation: (8 marks)

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 were 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 that only features which appear on the final document or presentation should be credited.

Evidence could be strengthened for;

- insert, crop or resize and position an image fit for purpose needs a before and after screenshot and it would be helpful if these could be annotated by the candidate,
- on a web page or in a presentation, sequence a set of events, needs a screenshot showing the selected custom animation if submitted on paper,
- use a **second** different source for data . Some Centres used original animations or sound but evidence of these was needed,
- automatic headers or footers must appear on final document **on more than one page or slide**,
- automatic page numbering **on more than one page or slide** must appear on final document or slide.

MODELLING

Again there were examples of very good spreadsheets but Centres should ensure candidates do not clone approaches to the set task.

Candidates should be encouraged to produce more original solutions.

Although improved it is probably still worth noting that the marking of '*Explanation of formulas/function/ feature*' tended to be generous.

Please use the following for guidance.

- **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**

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.

What was the total before and what was it after the investigation.

Investigations are not adding additional elements to the design of their spreadsheet.

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

Calculations must be shown in design view so the formula can be seen.

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)

The marking of this section has improved but some Centres still give marks for what is effectively a list of what they have done, rather than a critical evaluation.

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 all of 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*).

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- Q.1 Most candidates answered this question well, but many didn't read the question properly and gave 'keyboard' as an input, which was a device ruled out in the stem of the question.
- Q.2 (a) Candidates didn't always seem to realise that this question was worth three marks. They mostly named MIDI, but did not continue with the explanations of analogue signals or digital signals for the extra marks. Many knew that the MIDI converted signals within their answers, but did not write in full. Occasionally they had analogue and digital the wrong way around.
- (b) Many candidates gave three points, but they mostly all referred to editing, so did not receive the extra two marks. Many answered 'can send or download the music online'.
- (c) Well answered.
- Q.3 (a) Many knew what transitions were, but did not describe it as an animation or special effect. Timings were mostly well answered. Bookmarks were mostly referred to as favourites on the Internet and this was the least well answered part. Many mentioned that it was the part of the presentation last viewed, but only a few mentioned the link within the presentation.
- (b) Not well answered. A common answer was to help visually impaired people.
- (c) Some tended to use short, one-word answers, such as 'faster' or 'professional'. Most answered well.
- (d) Many of the candidates were able to give one disadvantage, but not the second. A common answer was being distracted by the animations. Most referred to the fact that the computer might crash, or the work might not be saved.
- Q.4 A significant number of candidates did not attempt this question. Some candidates did not read the question properly and answered 'GUI', which was ruled out in the stem of the question. 'Menu' was well answered. 'Voice recognition' was mostly well answered, but some stated that the computer might not recognise your voice, but did not expand on this. Also when mentioning disabilities, not enough detail was given for the mark. 'Command Line' was answered well. 'Biometrics' and 'Touch Sensitive' were mostly answered well, except that many used the hygiene issues of germs on the screen.
- Q.5 (a) Mostly well answered.
- (b) Many candidates answered this question poorly. JPEG answers seemed to be confused with BMP when it came to file sizes. There was a lack of correct terminology with this question.

- Q.6 (ai-iv) Mostly answered well.
- (b) Mostly answered well. Some candidates confused this question with the previous one, such as 'onion skinning' and 'rotoscoping'.
 - (c) Many candidates stated that the animation 'will run faster' and 'will run slower'.
 - (d) Mostly answered well.
- Q.7 (a) Many candidates answered this question well. Some confused the topic of online banking with ATM and withdrawing money and also being able to pay in money. Some candidates mixed the meaning of transactions with transfers. Some candidates confused a service with an advantage.
- (b) Mostly answered well. Some used the '24/7' on its own. 'Can do it from home' was a popular incorrect answer.
 - (c) Answers such as 'network goes down' and 'more work for them', 'banks will shut', 'can be hacked' were seen in many responses. Many candidates gave disadvantages to the customer.
- Q.8 (a) Mostly answered well. Many candidates mentioned people becoming obese and lazy, sitting at home all day.
- (b) Mostly answered well. Many confused with the previous question, answering Q8a.
- Q.9 (a) Learning computers was the most common correct answer. A significant number of candidates confused 'AI' with 'robot'.
- (b) Only some candidates answered this question well. Many were as in Q9a. Expert systems was a common answer.
 - (c) Very few correct responses and many did not attempt this question. Many robot answers were given.
- Q.10 (a) This was mostly answered well. Some incorrectly gave 'thermometer' as a sensor.
- (b) This was mostly answered well. Some didn't use the word 'temperature' and just wrote 'room being 18'. Some didn't mention that the Fan or AC needed to be switched on and just wrote 'Fan' or 'AC'.
- Q.11 Many well thought out answers here. Some did not mention the use of ICT. Some did not use the outside environment and used their home environment, such as being 'obese and lazy, social networking all day'. Many lost marks because they didn't explain the environmental impact, e.g. 'less paper needed' but didn't go on to mention the effect that would have on trees.

Q.12 Many good answers here, but a significant number of candidates did not read the question fully. Where the question asked candidates to name two network topologies, some candidates opted to write about them too, not just naming them. Also some drew diagrams, wasting effort and valuable exam time. 'Bus stop' and 'circle' was seen in a few answers.

Many wrote 'easily backed up', knowing what the meaning was, but did not mention centrally backed up data, or how the back-up is performed. Many answered well with the hardware devices, but quite a few mentioned mobile phones, walkie talkies, CCTV and so on, to communicate with the other building.

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UNIT 4

Again some of the websites and presentations were of a very high standard.

Centres continued to make the same mistakes, despite detailed comments from moderators about where individual centres were going wrong.

Centres are reminded that samples of work should be submitted **electronically** not in printed form. 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 number on the USB. Centres should check that all of the links work and that animations and movies still run after they have been copied to the USB

Marks cannot be awarded for any feature which does not appear in the final presentation or website on the USB.

As stated last year 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 are advised to submit a report of their work to support the skills they are trying to display

Centres need to consider how they are going to publish the websites 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 sometimes did not play. 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 might provide sufficient evidence of features used.

Many of the comments from last year are applicable this year as new centres had similar misinterpretations.

ORGANISATION OF FOLDERS AND FILES

Evidence of backup folders on an external device: Screenshots should show the end process not just the copying. The screenshot must show the root folder not just one file saved on a USB or external device/different network drive.

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

Sources log; this came in many forms and was generally fine. Note candidates should be encouraged to have at least 4 different links and not just all picture links. There must be some website links as well.

RESEARCH AND DESIGN

Analysis of websites

Describe the purpose of two websites, house style and target audience of each.

Again this was generally well done 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. There are still some Centres who award marks when candidates have not labelled the features on the websites but only listed them.

- 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, candidates had to compare four similarities and four differences between the features on the websites. If candidates **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. The file type and file size of two different features could be on one web site and there is no need for two on each site.

- These could include images or multimedia/web features. 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 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 are 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 are 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 for basic layout

1 mark for adding navigation features to be used

Collection and design of mood colours/moodboard

Some Centres gave marks where only imagery was identified.

Moodboards must consist of at least 2 out of the 3 of the following
– images/ colour schemes / fonts

Colours or images alone should not be awarded a mark

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 still do not understand the basic requirements of the specification.

Some candidates only produce one image built up from a simple one. This is still one image and therefore should not be awarded two marks.

The same applies for the animation. An animation which is a banner cannot be counted both as an animated banner and an original animation.

Two separate animations and two separate images are required.

In outline candidates should;

- Create an original master page or master slide with navigation features.
- Enter text fit for purpose on each slide or web page (to a max of 6)
Some centres gave marks when there was no suitable text on the page only pictures.
- Create **two discrete 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 with timings.
- 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.
- Use 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 incorrectly double counted 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, saving it in an 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 no screenshot evidence and have not 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 that they used some unusual tools and 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 perhaps with images one has drawn in an animation package. It must be a working animation put into a movie package to get the title and effect marks.

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.

Advanced features

Complex animations require complex movement not just a car 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.
- Complex layering means there are animations on top of animations.
- Complex looping mean individual items in an animation have a different looping cycle and not just the basic looping of replaying the whole animation in a loop.

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. 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

Use of advanced features in sound seemed popular this year with widespread use of sound editing programs such as Audacity.

Most of the evidence for advanced features was generally provided in the report. However, marks could not be supported when the sound files did not play in the website or presentation and there was no other evidence.

EVALUATION

Centres are becoming more demanding before awarding marks hence evaluation marks were better assessed.

Teacher comments would be useful in describing where they awarded the marks.

Candidates should cover all sections to get full marks e.g. how to publish/host their presentation or website to the web. They tend to talk only about compression.



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