



GCSE EXAMINERS' REPORTS

**GCSE (LEGACY)
ICT**

SUMMER 2018

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Annual Statistical Report

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.

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ICT

GCSE (NEW)

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UNIT 1: UNDERSTANDING ICT

Comments on individual questions

- Q1. (a) The question was fairly well answered by the majority of candidates.
- (b) This question was well answered by many candidates, however many lost marks by repeating features that were already included in the original sponsor form such as Clip Art and tables.
- (c) Mostly well answered by all candidates. Marks were lost where candidates gave spreadsheet or database answers rather than a different DTP document, which was asked for in the question.
- Q2. This question was accessible to all candidates due to the tick box format and very well answered by all candidates with many candidates gaining all of the four marks available.
- Q3. (a) Well answered by most candidates. Some candidates lost one mark by missing out that an email is sent over a network / the Internet.
- (b) Fairly well answered by most candidates. Most candidates gave a specific example of how a family could make use of an email attachment.
- (c) The most popular answer was organising emails and this was given by the majority of candidates.
- (d) This question was well answered. One mark was awarded for a list of email misuses, however most candidates described the misuses to achieve the full three marks available.
- Q4. (a) This question was well answered by most candidates. This was a new style question where candidates had to choose from a list of words. This was accessible to all candidates. Biometric and smart cards were the most popular correct answer.
- (b) This question was poorly answered by many candidates. Most candidates related it to a specific registration system rather than a general one.
- Q5. Poorly answered by most candidates. The question was specifically related to how the desktop environment could be customised to manage multimedia software. Answers that were incorrect were talking about how the desktop could be customised for disabled learners. Some great answers seen included splitting screens, creating shortcuts and creating folders.
- Q6. (a) Extremely well answered by all candidates.

- (b) Very well answered by all candidates.
 - (c) Well answered by many candidates.
 - (d) Very poorly answered. The question states that absolute cell referencing should be used; the candidate responses did not include absolute cell referencing in the formula. Candidates were also confusing the greater than and less than symbols.
 - (e) Fairly well answered by most candidates.
- Q7. This question was attempted by almost all candidates. Very well answered and accessible to all candidates due to the tick box format.
- Q8. (a) Very well answered by all candidates.
- (b) Poorly answered by many candidates. Marks were lost due to candidates incorrectly thinking the Boolean data type was a text data type.
 - (c) Very well answered.
 - (d) Well answered.
 - (e) Poorly answered by most candidates. Examples of incorrect answers included currency and formula.
 - (f) Fairly well answered with many candidates achieving at least one mark for saying that it is faster to type data.
- Q9. (a) This question was fairly well answered with most candidates stating the correct answer – check digit.
- (b) Very well answered.
 - (c) Poorly answered with many candidates confusing verification and validation methods. Candidates also lost marks by repeating excluded answers such as name and postal address.
 - (d) Extremely well answered by most candidates.
- Q10. The burglar alarm system was well answered by the majority of candidates. The smart meter section which was a new question was not answered as well. Many candidates did not gain the sensor mark. The description of use for a smart meter was fairly well answered. The smart toy question which was also a new question, was answered fairly well. For all three systems, the answer for the output device being an alarm or a sound was not accepted as an output device was asked for e.g. a speaker, motor or light was the required answer.
- Q11. (a) Most candidates attempted this question and were able to give developments in technology over recent years that have facilitated the use of social networking. However, marks were lost due to candidates giving advantages and disadvantages of social networking rather than describing the technologies used. The answer was looking for different developments in technologies that have facilitated the use of social networking. Examples of

correct answers include 4G, Wi-Fi, developments in camera technology and software apps.

- (b) Many candidates who attempted this question used the correct terminology and there were few spelling, grammar and punctuation errors. The majority of candidates attempted this question.

This question was mostly well answered. Many candidates were able to describe advantages of social networking. However, sometimes marks were lost due to many candidates confusing uses of social networking with the advantages. Candidates were also able to describe disadvantages of social networking and also explain how the disadvantages could be overcome.

Some extremely good planning techniques and responses were seen on this extended writing question, and in many cases, answers were impressive and well above the required GCSE standard. Answers were well constructed and many candidates achieved full marks for the disadvantages section

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UNIT 2: SOLVING PROBLEMS WITH ICT

GENERAL COMMENTS

Some centres had difficulties with uploading to the new Surpass system but hopefully candidates will be better prepared to upload their evidence as one single PDF document next year. Note that candidates can construct their evidence in a DTP or presentation software but it must be converted to a PDF before uploading.

Please ensure that the candidate declaration form and all mark sheets are inserted at the top of the PDF document.

Candidates are encouraged to screenshot the required evidence and save it as they go along. This should simplify the process and assist teacher marking and internal standardisation.

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

Candidates are encouraged to read the question paper carefully and not rely on the generic marking scheme. Please note that requirements of the test change e.g. sometimes they are only required to add 2 fields in Information Handling and hence can only get a maximum of 1 mark. If they are required to do a sort in Modelling, then the most marks they can attain is for the sort + 3 other advanced features. If they are required to do a specific macro in modelling then this is one of their advanced marks and so they can only gain 3 other of their chosen advanced marks.

Those centres that used the one sheet marking 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 and move

RESEARCH AND DATA COLLECTION

This is still a problem for a handful of centres.

- Source logs should have more than 2 different types of links. Candidates should be encouraged to show 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, a minimum of three screenshots are required of searches and their results
 1. 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.
- Blank questionnaires should not be awarded marks. Questionnaires must be filled in to show they had acquired information.
- 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 additional information before they can be awarded a mark.

EMAIL

Again some of the screenshots were so small as to make them hard to understand. If the moderator cannot read the content, then they cannot support the marks awarded by the centre.

Email activities must be fit for purpose as specified by the controlled task.

This task was about using a variety of email facilities to gather opinions about first drafts. Some centres showed screenshots of candidates doing email activities but had no content which had any bearing on the stated task. Therefore they should not have been 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 are so poor as to hardly warrant a mark, and do 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.

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.

Centres should encourage candidates to provide more detailed and relevant comments to improve their work.

Drafts and final documents

Some candidates show construction evidence of page numbering etc. But it is not on their final solutions.

Again centres should note that only features which appear on the final document or presentation can 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 sources 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

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

All formulas used should be included in the *explanation* and should not take the form of just annotation saying “I did a SUM here”.

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.

Advanced features

Candidates were asked to do the following.

Design task: Clear macro +3 others
Sport for All: Mailmerge or Print Macro +3 others

Some candidate did 4 advanced features of their choosing and did not do a macro and hence lost a mark.

Macro code should be included in the evidence.

DATA HANDLING

Basic features

This was generally accurately marked

Advanced features

Candidates were asked to use Use the ‘sportstrip’ database to produce a **report** showing the itinerary for each booking for the sporting event.

Use this database to produce a **report** showing the itinerary for each booking for the sporting event. 1 mark

Reasons why the data produced as a result of these operations are 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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UNIT 3: ICT IN ORGANISATIONS

- Q1.** (a) All candidates attempted this question and almost all candidates did well.
(b) Almost all candidates attempted this question and most did well.
- Q2.** (a) Well attempted. Some candidates failed to read the question correctly and gave “less physical space” as an answer.
(b) Most candidates attempted the question and stated a security risk. Only a few candidates were able to gain full marks on this question.
- Q3.** (a) Almost all candidates attempted this question and most did well.
(b) (i) Some candidates were able to identify a hot spot as being a graphical hyperlink. However, a high number of candidates did attempt to describe a hot spot in terms of Wi-Fi and not in terms of presentation software.
(ii) Answered correctly by a minority. Only a few people were able to identify a transition as an effect that occurs when moving from one slide to a next.
(c) The majority of candidates were able to gain some marks for this question with a minority gaining five or six marks. Candidates struggled to understand other forms of presentation other than using presentation software and therefore struggled to answer this question fully.
- Q4.** (a) The majority of candidates scored well on this question. Some candidates lost marks for answering with only one word and not fully explaining the feature/purpose.
(b) Well answered by the majority.
- Q5.** (a) Questions on animation were generally poorly answered in this paper. Around half of candidates could get some marks but only the minority were able to show a full understanding that keyframe animations need a start and end point and that the computer automatically creates the frames in-between.
(b) Candidates struggled to communicate what onion skinning is. Most answers were vague.
(c) This has been asked in reverse in the past. Many candidates struggled to answer this correctly.
(d) Most candidates struggled with understanding rotoscoping and many mixed it up with onion skinning.
- Q6.** (a) Attempted by almost all candidates and most candidates gained a few marks. A minority of candidates gained full marks.
(b) Generally answered well by most candidates with the majority of candidates gaining over half marks.

- (c)** Poorly answered by the majority of candidates. Most candidates attempted to gain marks by explaining that a compressed file may result in a loss of quality but most were not able to word this in a correct manner.
- Q7. (a)** Candidates showed a better understanding of expert systems compared to previous years, although this question was not attempted by a minority of candidates.
- (b)** Similar to 7a, although more candidates were gaining marks for more generalised answers regarding initial cost and the need for training.
- Q8. (a)** The mean mark for this question was low considering the stem. Most candidates attempted the question but the attainment was lower than expected.
- (b)** Most candidates attempted this question but many did fail to use the correct terminology and therefore lost marks.
- Q9. (a)** Almost all candidates attempted the question but the mean mark was low.
- (b)** The majority of candidates attempted this question but it was poorly answered. Only a minority were able to show an understanding of validation and describe one example.
- Q10. (a)** Candidates have shown an improved understanding of networks in recent years and most attempted this question and did well. Some candidates were able to show a good and detailed understanding of how packet switching works.
- (b)** Most candidates were able to name two network topologies.
- (c)** Most candidates were able to discuss one or two points but were unable to show any further technical understanding to gain full marks.
- Q11. (a)** Almost all candidates attempted the question and were generally good in listing jobs created by ICT but not as strong with jobs lost.
- (b)** This question was answered well by a minority of candidates. The majority of candidates were listing social impacts and the question only asked for environmental impacts. Where candidates did understand the question correctly, they answered well.

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UNIT 4: DEVELOPING MULTIMEDIA ICT SOLUTIONS

General Points

Centres are reminded that one zip file containing all the required evidence should be uploaded to the Surpass system.

This means there is no published version of the website or presentation unless centres include this in the PDF evidence or as a second additional PDF contained within the zip file.

Please ensure that the candidate declaration form and all mark sheets are contained in the zip file.

Centres must take steps to ensure all features awarded marks are clearly evidenced and appear on the pages of their final solution.

This should resolve the problems we have had in the past of lost links, broken discs, unreadable files, incompatible versions of software or compression techniques.

It does require centres to take a more systematic approach to recording evidence as they create it.

It is very time consuming for moderators to track bits of evidence stored in many folders and subfolders and shows a lack of organisation on the part of the Centre.

Candidates should submit a single evidence report of their work to support the skills they are trying to display. A report containing screenshots of features is essential. These need not be a complete record of every little step a candidate took but should 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 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.

This is the main problem area with the work that candidates submit.

Candidates must label the features on the two chosen websites.

Candidates do **not need to identify data/ pictures/logos for this section.**

Candidates should identify multimedia e.g. flash animation/movies/podcasts etc or web features hyperlinks/hotspots/shopping trolleys etc.

Candidates should have clearly identified them on the website by, for example, drawing an arrow to them **not** just listing them as a set of bullet points.

Some centres set up a table and had candidates 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.

Please note as this can be a major issue for centres that are out of tolerance. If they had not labelled the multimedia or navigation features as 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. They could be on one web site they do not need two on each site.

- These could include multimedia/web /digital images /web icons etc.
- They must be **different types - not 2 jpegs**
- They must also **identify or indicate the size of the file**(in memory/pixels/on screen measurements /percentage of template etc) **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 based on a system that has already been created.

Candidates were expected to write a paragraph about the purpose of their web page or presentation. These 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.

e.g.

Page/slide 1 contains information on.....

Page/slide 2 contains information on.....

Etc for 6 pages or slides.

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

An implemented master slide is not design.

Collection and design of mood colours/mood board

Some Centres gave marks where only imagery was identified.

Moodboards must consist of at least 2 out of the three of the following

– images/ colour schemes / fonts

Colours or images alone should not be awarded a mark

IMPLEMENTATION

Only features present on the webpages or presentation should be awarded marks.

The basic requirements of the specification are as follows.

In outline they 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 to enhance the basic requirements outlined above.
- Evaluate their work

Most of this is done well but a few centres incorrectly double-counted one feature especially with regard to images and animation. Some candidates only produce one image that is built

up from a simple one. This is still one image and therefore should not be awarded two marks.

The same goes 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.

IMAGES

Generally well done but evidence of the use of at least 3 frames should be included for a complex image.

Create two original images such as a logo or web icon or other image and optimise it saving it in appropriate format. Most candidates created 2 clearly different images but many did not show any evidence of the 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 they used some unusual tools they should provide construction evidence e.g. lighting effects, removal of backgrounds etc

ANIMATIONS OR ANIMATED MOVIE

Whilst most centres do two separate animations and a separate movie, some try to cut corners and double count marks.

- **An animation or animated movie is not using still photographs to make an animation.**
- **An animated movie is not dropping the whole Powerpoint presentation into a movie package.**

It must be separate and have a distinct purpose.

Create a storyboard **for the main animation** and not the banner

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 different 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 given in basic features to that given 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 more 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 some centres appeared to award marks for advanced features when little or no evidence was provided and their marks could not be supported especially as the sound files did not play in the website or presentation.

EVALUATION

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

Teacher comments would be useful in describing where marks were awarded.

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/host their presentation or website to the web. They tend to talk only about compression.

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 (hosting)**

Summary evaluation

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



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