OCR
RECOGNISING ACHIEVEMENT

GCSE

ICT

General Certificate of Secondary Education **J461**

General Certificate of Secondary Education (Short Course) **J061**

OCR Report to Centres

January 2013

Oxford Cambridge and RSA Examinations

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the examination.

OCR will not enter into any discussion or correspondence in connection with this report.

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OCR REPORT TO CENTRES

Overview

This was the last January session for this specification and consequently there were fewer candidates than for previous sessions. This was especially true for the controlled assessment units and there were very few entries for B064 and none for B065.

The issues discussed by the principal moderators and examiners in the unit reports have largely been raised in previous sessions. These reports are a valuable resource for teachers since they highlight common misunderstandings or issues that need to be dealt with.

For the examined units one major problem is a lack of basic subject knowledge, and it must not be assumed candidates can accumulate all the knowledge they need to answer the questions on these papers from everyday exposure to, and use of, ICT. Much of the content for B061 and B063 will be new to candidates and must be taught. Where the candidates do have this basic subject knowledge they are able to apply it to the situation more effectively and provide more accurate and meaningful answers. In B063 this becomes apparent with candidates who have learned about and explored the use of ICT in the scenario situation being able to provide detailed and insightful answers to the questions, those who have not tend to talk generally about related ideas. It is also important candidates are taught how to read the questions accurately and to answer the question they have been asked rather than simply list any knowledge they might have about similar ideas.

In the controlled assessment units it is worth reiterating the need to complete the task under controlled conditions under teacher supervision. Teacher led work breaches the controlled conditions rules and also limits the candidates' ability to demonstrate their own knowledge and skills effectively.

The reports on the controlled assessment units both highlight the need for a single report document accompanied by the electronic evidence of the solution(s) produced. Using a single document, updated throughout the development process also focuses the candidate's mind on what they have done so far and what needs to be done as well as making it much easier for the teacher to assess and the moderator to moderate.

It is disappointing how many clerical errors were found with the moderated work. In many cases the candidate numbers were missing or incorrect and in a number of cases the centre numbers were also missing or incorrect. During moderation we use these numbers to identify the work and it is essential these are recorded accurately on the URS forms submitted with the sample. There were also a number of instances where candidate scores had not been accurately transcribed onto the OCR system, it is important these clerical tasks are completed accurately.

B061 ICT in Today's World

General Comments

As stated by the Chief Examiner, if candidates were well prepared and had the subject knowledge they did well, unfortunately many candidates appeared to be un-prepared for this examination. Candidates had sufficient time to answer the questions and, while many candidates were able to access all of the questions, there still a few candidates leaving questions unanswered.

There were some good attempts at the questions requiring longer responses but Centres are again reminded that candidates should have practice in answering those types of questions that require a discussion and/or are used to assess the Quality of Written Communication.

While many candidates produced good responses which were very well expressed, clearly structured and interesting to questions 7 and 9, it is still disappointing to note that many candidate responses were superficial, badly expressed, often meaningless and completely lacking any IT knowledge. Centres are reminded that, if they are to succeed in this Unit, candidates must be taught the theoretical knowledge contained in the Unit specification. It is apparent from the many poor candidate responses to the questions that this is not the case.

Centres are also reminded that all areas of the specification can be tested in any examination series.

Comments on Individual Questions

Q1

(a) Most candidates were able to correctly identify the devices and scored both marks. The most common answers were microphone, speaker or touch screen. Common errors included 'flash memory' and 'USB slot' showing a lack of knowledge and understanding of the input, output, process, main memory and backing storage found in modern computing devices.

(b)(i)(ii) These questions asked for sensor, and their use, that would be found in modern tablet computers but many candidates quoted the devices they had used in response to (a). Good answers should have referred to the e.g. light or accelerometer sensors that are used by tablet computers to adjust screen brightness automatically or to adjust the screen display depending on the orientation of the tablet.

(c) This question was well answered by most candidates who stated that the user would touch the web browser icon. Common errors were "open the web browser" which repeats the question but does not answer it, or "click the browser".

(d) Most candidates scored full marks for stating the use of an on-screen keyboard, microphone/speech-to-text/voice recognition or the use of a (USB) plug-in keyboard. Common errors were the statement that the tablet computer had some form of physical keyboard built-in – the image shows this not to be the case.

(e)(i)(ii) These questions asked about the solid-state flash memory used by this tablet computer. Many candidates wrote about removable USB flash memory, which was not the focus of the question. Candidates must be taught to focus upon the question being asked and not to write generic responses that miss the point. Candidates are expected to know the different use of, and the advantages and disadvantages of using, solid-state drives, USB memory sticks and magnetic hard disks.

(f)(i) Most candidates scored the mark for stating the obvious point that Wi-Fi is wireless but few scored the two marks. Many candidates gave the uses of Wi-Fi but this did not answer the question. Further, the uses quoted were almost always incorrect or inaccurate.

(f)(ii) This question showed that, while many candidates appeared to have experience of using them, the majority of candidates did not know the differences between Wi-Fi and Bluetooth® technologies. The most common error was to state the uses. Again, as with (i), most responses quoting differences were incorrect or inaccurate.

(g) This question asked candidates to explain why the tablet has two cameras, one at the front and one on the back. Most candidates answered this question well.

Q2

Most candidates scored the four marks for this question. The most common errors were to mix up the use of MPEG and JPEG and MPEG with RTF. Most candidates correctly associated MP3 with audio.

Q3

(a) Most candidates could correctly identify the first as a cell but too few could identify the second as a range.

(b) This question was poorly answered with too many candidates giving poor responses such as “to do sums” or “doing equations”. This showed a lack of understanding of the use of formulas.

(c) This question was poorly answered with many candidates stating that an absolute cell reference was a “specific cell”. A few candidates scored both marks.

Q4

This question was poorly answered with few candidates showing any knowledge of database structure. Some candidates could state that a record held information but only a few could define a record correctly.

Q5

The question was about a ‘software engineer’ creating a ‘database system’ – the majority of candidates did not refer to this but gave generic responses about a library database and what this system could do e.g. search for books, which gained few, if any, marks. Few candidates scored more than half marks on this question.

Q6

Most candidates scored a mark for stating that this was more secure but few managed to score the remaining marks.

Q7

More candidates were able to reach Level 2 but there were few answers that reached Level 3. Most answers referred to the ability to get/keep in touch with friends both at home and abroad and stated the disadvantages of people pretending to be younger than they were and of cyber-bullying. There were few references to more than one social networking site, Facebook was the most common example but references to following celebrities on Twitter or sending pictures via Instagram were also seen. The better responses gave a balance view of a number of social networks.

Q8

Most candidates scored some marks on this question but the better responses linked e.g. CCTV to facial recognition systems or DNA samples to databases that stored DNA records and allowed searches to be made. The most common error was to describe RFID tagging or electronic tagging without making reference as to how these could actually identify suspected criminals.

Q9

Most candidates could describe video-conferencing – although a significant few confuse it with the use of video recordings – but few managed to describe more than one benefit or drawback of its use. The better responses described costs, enhancement of the learning experience and technical issues affecting lessons.

B062 Practical Applications in ICT

General Comments

The entries covered all 6 tasks available for this session.

Some centres had made full use of the consultancy service and support documents on the OCR website such as the 'Success in B062 Teacher's Guide'. Where centres had availed themselves of this support, the work was generally marked accurately to the assessment criteria. However, there were other centres who did not appear to be aware of the support available and therefore did not really know what was required to meet the assessment criteria; in these cases, the work presented was often lacking detail and appropriate evidence for some of the sections.

It was most helpful where centres had annotated the candidates' URS with page numbers where evidence could be found. There were a few errors in completing the URS forms, such as incorrect candidate numbers, which can make determining which work belongs to which candidate difficult. Not all centres submitted URS forms, which is a requirement for moderation.

Where centres had submitted the work electronically, either on CD or via the OCR Repository, it was much easier at moderation to see the software features used in the final system and to use this and the diary to determine the understanding a candidate showed of software features used.

Some centres had instructed candidates to collate their work into a few appropriate documents, or even one complete document, containing evidence for all of the 'written' sections. This makes marking and moderating much easier than where candidates had many very short documents, not always named appropriately to find evidence. Candidates might also be advised to use the wording in the assessment criteria to name the different sections of the work, where possible - e.g. a title 'Investigating a need' can cover all the assessment criteria in the research and analysis, which might help them to focus on what the assessment criteria are and also make marking and moderation easier.

Some centres are providing too much teacher guidance during the taking of the tasks, either in the form of practice tasks which are too similar to the live task or by providing templates or feedback during the controlled assessment task taking. Controlled assessment must be done under controlled conditions and guidance or feedback from the teacher is not allowed. The use of templates is also prohibited.

Comments on Specific Marking Criteria

Investigating a Need

The most common problem with this section was candidates carrying out superficial research and not spending enough time collecting relevant information on software features, data and data formats that would be appropriate to use in their final systems. Where candidates collected research it was often not then used to inform their decisions about how to proceed with designing and developing their systems. Often, it appeared that the candidates had been taught a few specific software features, which they then used to develop their system regardless of the research they had collected about existing systems. Candidates need to understand that the work is one integrated piece of work and that the research and analysis should be all part of the decision making and justification. Where candidates chose to do the Lakeview Prize Giving task, some spent too much time looking at logos that would be suitable, for which no marks were awarded.

Practical use of software tools

There was not always enough evidence of a range of advanced software features or of the candidates understanding why they had chosen one software feature for a particular purpose. This was often due to what appeared to be guided teaching prior to taking the task, where candidates had been taught how to perform a few advanced software features which they used but could not justify why. Where a teacher tries to guide candidates too closely as to what software features to use, etc, this often results in candidates scoring less well than they might have done if given the freedom to choose appropriate software features and say why they have chosen them. As noted in previous reports, the part of this section that was often completely missing was evidence of testing. A completed test plan alone is not evidence that the tests were carried out or of what the results were. Annotated screen shots or short videos are the best way for candidates to present this evidence.

B063 ICT in Context

General Comments

The full ability range was demonstrated in the answers provided. The majority of candidates were adequately prepared for examination. Others would benefit from more in-depth study of the case study and greater research of the topics on the pre-release material, ensuring that adequate time is spent on all of the items.

The handwriting of some candidates was very difficult to read which made marking responses very difficult. Centres must ensure that candidates use handwriting that is legible. Accessibility to marks may be limited if responses to questions cannot be read.

When answering question, some candidates failed to apply their answers to the scenario and this restricted the marks awarded in some cases.

Candidates must be taught the correct examination technique for answering questions with different command words. Whilst some candidates understood the difference between describe, explain etc., a significant number did not.

Comments on Individual Questions

Q1

Most candidates did well on this question.

Q2

A small minority of candidates did not see that this question required them to state two electronic methods of sending files.

Q3

Generally answered well. Some candidates gave incomplete answers, or described what they thought open source software was, rather than explaining the benefits of using open source software.

Q4

(a)(i) This question was answered well. Most candidate were able to state two different online communication methods. A small number of candidates misunderstood the difference between a one-to-one video call and a video conference. Some candidates simply stated methods of communication that were not related to the context of the question.

(a)(ii) Most candidates stated two suitable methods. Again, a small number of candidates simply stated methods that were not related to the context of the question.

(a)(iii) Most stated two suitable methods. Some candidates missed the fact that this section was to share feedback and so stated methods that were not suitable.

(b) Many candidates gained half marks for giving an acceptable answer, but failed to go on to explain how the method would avoid security problems. Some candidates did not appreciate that the methods were things the staff could use.

Q5

It is clear that some centres had prepared candidates well to answer this kind of question. In many cases, the answer was well structured and candidates had discussed benefits and limitations of using CAD for boat design. Other candidates failed to relate their answer to the case study and so gained few marks.

Q6

A number of candidates seemed to misunderstand what is meant by planning. Some candidates gave answered more suited to the management of a project after the planning had been completed.

Q7

Again, some candidates had been well prepared to answer this kind of question. A small number of candidates did not fully read the question and focussed on the advantages to customers, rather than the advantages and disadvantages to the staff.

Q8

(a) This question was answered well by the majority of cases. A small number of candidates listed things that should be included in a paper catalogue rather than an online catalogue.

(b) Most candidates answered this question well. Again, poor examination technique meant that some candidates simply gave a point, but did not go on to explain it, which restricted the mark awarded.

(c)(i) Answered well. A small number did not explain the purpose of 'To'. A small number also were not able to explain the purpose of 'BCC'.

(c)(ii) Many candidates were not able to give a suitable example for the use of BCC.

Q9

Many candidates failed to realise that the specification was for a high performance PC capable of running CAD software. Some candidates showed very little understanding of the components and functions of a PC.

B064 Creative use of ICT

General Comments

Only a few centres choose to submit work for moderation this series and it was pleasing that most opted for some form of digital submission. If a paper route is chosen it is always useful to send the final product to the moderator on a CD or memory stick along with the printed material.

It is vital when submitting work digitally that evidence is well presented. It is recommended that the written element of the unit is compiled into a single document so moderators don't have to open lots of different files to try and find different parts of evidence. Parts of the design specification produced during the analysis task certainly should be one single document. Designs produced during the design stage can be scanned in and combined into the final documentation – most photocopiers will scan to PDF. There are lots of free portable document creators available on the internet which can be used to turn word processed documents into a single file.

It would be helpful if before submission that centres check, that the products still work properly. Websites especially will often work on candidate's areas but sometimes in the transfer process graphics can become omitted as links are absolute rather than relative or the files are in folders outside the working folder. Setting up a root folder in the candidates work area and ensuring that all related files are saved to that folder is considered good practice. Multimedia presentations can also have a problem of missing media when videos and sounds are linked rather than embedded – care needs to be taken when transferring these also. Yet again this session some of the products failed to function correctly when the moderator tried to use them.

Care needs to be taken when choosing a submission component code for this unit. Entry code B064/01 is for repository submission whilst B064/02 is for postal submission. Although we encourage electronic evidence rather than paper based for this unit sometimes, due to the complexity of websites and other products, entering students using B064/02 and posting the evidence on a CD can avoid hours of frustration trying to upload work to the OCR repository.

Assessment of the work this series varied greatly. Most centres assessed leniently and, in some cases, there were major differences between the centres marks and the decisions made during the moderation process. Too frequently full marks for tasks were awarded inappropriately. Full marks should only be awarded for work which is the best one could possibly expect a candidate to produce at GCSE level and should be the exception rather than the norm. Advice on awarding marks for the work can be found within the "Success in B064" booklet available on the OCR website. The OCR coursework consultancy service can also be used to ask assessment interpretation questions, however due to the nature of controlled assessment live work which has been marked can't be commented upon.

Unfortunately there were a number of clerical errors this series which did hinder the moderation process. Whilst using the electronic unit recording sheets eliminates the possibility of arithmetic errors, as marks are automatically summed, care still needs to be taken to avoid errors when transferring marks to the mark sheets which are submitted to OCR.

When conducting this unit teachers need to familiarise themselves with the rules associated with controlled assessment. Most of the analysis section of this unit should be completed at a low level of control and candidates can share ideas with one another whilst researching existing solutions to a similar problem to the one which they are trying to solve. Candidates should then enter controlled conditions to write up the research and propose their own solutions. In a couple of instances research work from other candidates was included within a particular candidate's work. The final piece of work needs to be solely a candidate's own work and even though

research is collaborative, work produced by another person must not be included. To show that group work has taken place candidates should summarise the feelings of the group and quote/paraphrase within their research notes what others had to say. When completing the research it is important that the research links to the proposed solution for higher marks within this section. Too often candidates would present their research, then a solution with no link between the two. When presenting the proposed solution candidates should state how their decisions have been influenced by their research.

Comments on Specific Marking Criteria

The design specifications produced are part of the analysis section and need to include a clear explanation of the solution and how it solves the problem, a list of tasks which need to be carried out to develop the solution with appropriate timings, consideration of hardware and software required to develop and run the solution and detailed user requirements including measureable (both quantitative and qualitative) success criteria. In some cases parts of the design specification were missing or not detailed enough for the award of band 3. In other cases the design specifications became interspersed with content from the design section which did lead to moderation problems.

The design section should be conducted under controlled conditions and requires candidates to produce designs for their proposed solution and comment on how the designs meet the user requirements defined within the analysis task. It should be noted that both elements and screen layouts for the products should be designed in detail. Designs can be completed on paper or using vector drawing tools on a computer. The quality and detail of the designs will partly determine the mark awarded for this task along with the level of explanation of how the designs meet the user requirements. At the lower end brief designs will be included which another ICT competent person may struggle to follow. For the award of mark band 3 candidates need to fully design all elements of their solution in enough detail so another ICT literate person could create their solution. Some of the designs produced by candidates didn't include the necessary detail even though a mark in band 3 had been awarded. Mark band 3 for this criterion also requires candidates to explain how the proposed solution meets the user requirements; this was frequently missing from the work seen. A simple way to demonstrate this is to list each of the user requirements after the designs and underneath each, explain how the designed solution meets the requirement. How the solution is going to be tested is also an essential part of the design process and candidates should produce a test strategy as part of the design task. The inclusion of a test plan is good practice and is part of the test strategy however there needs to be some explanation of how this test plan is actually going to be used. Statements such as "I will use this test plan to test my website upon completion within 2 different browsers and on a smart phone" and "I will make a questionnaire and ask 3 teenagers to comment upon my interactive bus shelter" turns a test plan into a testing strategy.

The development of elements task should be carried out under controlled conditions and requires candidates to show how the various components which make up the final product have been made. Elements refer to text objects, sounds, different types of graphic, video clips and animation. There needs to be evidence of making at least three different types of element for the award of mark band 3 for this task. It is likely that alternative software applications will be used to create the elements from the one used to produce the actual product. This specification was not designed to be a test of how competent candidates are at producing write ups and the focus needs to be on the skills used, however these skills need to be overt. A straightforward way for candidates to produce evidence for this task would be for them to produce a diary noting down how things have been made – with a few selected screen shots to explain things which they may be having trouble describing with words. In some cases more evidence of developing elements for the solution should be included for high marks.

The development of the overall solution task should be carried out under controlled conditions and marks should be awarded for the functionality and quality of the product which the

candidates have produced. The best way to showcase these to the moderator is to submit the work either via the repository or on CD. For mark band 3 a wide range of features need to be included and the products should be fully functional – missing graphics and hyperlinks within websites are not acceptable for the award of marks within band 3. The products need to be of a high quality for mark band 3 showing a wide range of features has been used. They should be aesthetically pleasing with a suitable colour scheme and excellent quality graphics, well placed and scaled in proportion – pixelated graphics are not appropriate within products being award mark band 3. The range of features depends on the product being developed, for example, if a multimedia product is being produced it is expected that candidates include graphics, text, sound, video and other media, self-created templates, styles, timings and triggers, animation effects, navigational bars/buttons to create a nonlinear route through the product, drag and drop/popups/other interactive features. Whilst, for a website, the use of graphics, text, hyperlinks, styles, self-created templates, rollovers, hotspots, drop down menus, web forms, animation and sound should be amongst other elements. For the award of high marks, for a game candidates should have a functioning scoring system, multiple levels and the ability to interact with the game by answering questions, picking up items/treats or destroying enemies. Another requirement of this task is to comment upon the success in following the plans and any changes made. “Success in following plans” refers to how the candidate followed their time plan, although many also state how they followed their designs as well which is not a bad thing.
A good place to include these notes is within the evaluation section although to prevent it being omitted candidates could complete it once the product has been completed.

The testing task should be carried out under controlled conditions and requires candidates to follow the test strategy developed in the design section to check that their product works the way in which they intended. All of the mark bands within the testing section require some form of user testing and unfortunately some candidates had not carried this out leading to lower marks being awarded. In some work seen there was a suggestion that work had been tested at home by parents or siblings which is not appropriate. Higher marks for testing should only be awarded when there is clear evidence that testing in different situations has been considered. Testing websites, games and multimedia products on different hardware, operating systems/browsers and screen resolutions should be considered and carried out as far as possible. A few old machines at the back of the class room loaded with different software provide an excellent opportunity for candidates to test under different situations. Some candidates this series produced some excellent evidence of testing their websites on different browsers and even smart phones as they had been uploaded to a webhost. If due to network restrictions candidates are not able to test their products in different scenarios a detailed written statement describing how they would carry out such testing if the resources were available is acceptable.

The evaluation task should be carried out under controlled conditions and should critique the product made and the candidate’s performance when working within groups. For the award of mark band 3 candidates are expected to produce a high quality evaluation which reflects upon what the solution does, its strengths and weaknesses, areas for improvement, how limitations found during testing have been dealt with and an evaluation of their and others contribution to group work. Candidates should refer back to the original user requirements and success criteria and state how each has been met. Listing the requirements again within the evaluation and commenting on how it’s been achieve (or not) is good practice. Some of the evaluations seen, failed to include sufficient detail and a lower mark would have been more appropriate.

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