

**GCE**

**ICT**

Advanced GCE **A2 H517**

Advanced Subsidiary GCE **AS H117**

**OCR Report to Centres June 2015**

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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.

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**Advanced Subsidiary GCE Information and Communication Technology (H117)**

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# G061 Information, Systems and Applications

## General comments

It was pleasing to see an improvement in the subject knowledge of the candidates from previous sessions. Many of the responses contained a higher level of technical language than previous sessions. As all questions in the paper are based on the specification, this leads to a similarity between papers from different sessions. It was apparent that there is a significant number of candidates who have learnt responses from past papers but had not taken into account the change in context or slight change in focus of the questions in this particular paper. Whilst the use of past papers as a revision method is highly recommended, the rote learning of responses from those papers is not a route to gaining high marks.

The handwriting of the candidates has deteriorated since the last session – if the response cannot be read then it cannot be marked.

## Comments on Individual Questions

- 1a** There were many good responses to this question that achieved full marks, particularly those that used examples to back up their descriptions. Some candidates repeated the key words from the question rather than describing what they meant.
- 1b** Many candidates described rather than compared. A comparison requires the candidates to think about features that are either common or dissimilar to both items. A large proportion of candidates also described what was meant by static and dynamic data rather than the use of the sources to find information as asked by the question.
- 1c** This question was answered successfully, with the majority of candidates gaining all the marks. Responses which failed to achieve all the marks included those relating to copyright and the cost of the clipart.
- 2a** There were some good answers from many candidates – some reworded the example given using different values and outcomes. Candidates that did not score marks did not give a value to change or a variable to look at for the answer.
- 2b** The majority of candidates were able to give examples of how cells would be used but struggled with the definition. ‘Cells’ was answered better than ‘ranges’.
- 3ai** Where candidates correctly read the question and identified hardware and software devices in the appropriate part of the question, they scored high marks. There were a considerable number of responses, however, that gave advantages of the hardware or software rather than a description of it.
- 3aii**
- 3b** Most candidates could describe how the health problems arose and there were some good answers describing a solution. Marks were lost by not providing a different solution for each problem or describing the problem and not the cause.
- 4a** There were many good answers demonstrating that candidates were familiar with this topic. Some answers that lost marks confused *templates* with *mail merge*.

- 4b** This question ties in with the practical G062 coursework. Most candidates knew what a footer could be used for, mostly page numbers but fewer candidates could say what a section could be used for and some described features of a section, such as changing page orientation rather than examples of its use.
- 5** There were a high number of answers that gained full marks, many reflecting on unpredictable conditions and accuracy of a model.
- 6** This question also ties in with the practical G062 coursework, but in this case it was well answered with many candidates giving advantages of use rather than specific characteristics.
- 7a** This was a topic that the majority of candidates seemed to know something about and generated some good answers.
- 7bi** A large number of candidates achieved both marks. Answers which did not achieve both marks included DOB – a shortened version but not data that would be encoded. A common error was to give a shortened version of a field name rather than the data.
- 7bii** This question was generally well answered, with candidates showing familiarity with the topic and producing standard answers – some however, were not contextualised to the online booking form and were therefore not credited.
- 7c** This question was, on the whole, answered well and many candidates gained full marks. The diagrams were sometimes ‘unconventional’ but as long as they were understandable they were credited.
- 7di** Unfortunately, not many candidates knew what a ‘check digit’ was and as a result failed to achieve marks on this question.
- 7dii** This was a very well answered question with the majority of candidates achieving both marks.
- 8a** Many candidates only identified features of a database and failed to describe why a database would be recommended in this situation. This limited them to the bottom band.
- 8bi** Most candidates gained a single mark for the concept of ‘linking tables’, very few gained a second mark. Many candidates described the term rather than giving its purpose.
- 8bii** Some candidates gave a description of referential integrity rather than its purpose. Many however, did not know what it was and achieved no marks.
- 8c** A number of candidates incorrectly stated that the number of hours would be ‘date/time’ and there is still a large proportion giving number as a data type rather than real/integer. Those that thought about the question achieved full marks.
- 8d** There were some good answers, though many missed out the ‘ANDs’ so couldn’t get full marks. Some candidates, unfortunately, confused ‘less than’ and ‘greater than’ symbols, losing marks.
- 8e** A large proportion of candidates correctly linked two or three tables but very few correctly gave the relationships between the tables.

- 9** There were many correct answers given by candidates, showing this was a topic candidates were familiar with and had learnt. A sizeable proportion however, gave personalisation as an advantage, which was mentioned in the question.
- 10a** Most candidates gained half marks as they could identify a hyperlink but could not expand on it for the second mark. A large proportion of candidates described *animated GIF* rather than *animation* as a feature in presentations and as such found it difficult to gain the second mark. Candidates need to be aware of the differences between *a transition* and *an animation* as some were confused.
- 10b** This proved to be a question that many candidates were able to gain at least half marks on. Many however, described the features rather than describing why it was an advantage.
- 11a** Most candidates could say that backup is a 'copy' but fewer could describe an 'archive', instead explaining how each would be used.
- 11b** The range of acceptable answers was considerable and many candidates scored at least half marks for identifications, some however, struggled to expand on their answers to gain full marks.
- 12a** Where candidates had clearly learnt the Act, there were some good answers; some candidates gave a person's rights instead of the principles.
- 12b** There is a large misconception amongst the candidate body that copyright needs to be bought or registered and many answers focused on this. A few candidates focused on the issues of enforcement.
- 13** For the top band, the essay requires both depth and width of knowledge. It is not about how many different developments can be given but the understanding that the candidate has of the implications of the development. The number of developments that need to be considered is two. Once two developments have been identified, the candidate has achieved marks in the lower band. To move into the second band candidates will need to have identified the developments and will have made an attempt to look at how these developments affect the way that customers browse and shop. It is likely that the coverage of the impacts will be superficial. The third mark band will include one line of reasoning – from identification of the development to a description of its impact and then an explanation about the impact – this explanation could focus on its consequences for customers or for the company, or it could focus on the advantages and disadvantages of the development for the customers or the company. The fourth mark band is similar to the previous mark band but there needs to be two lines of reasoning – two detailed explanations. These can be linked to the same development, or they can be for a different development.

Many candidates are giving lots of different developments without going into any depth or considering any impacts. This is restricting the marks they can obtain.

## G062 Structured ICT Tasks

### General comments

The presentation and quality of much of the candidate work was very good. Most centres did provide candidate work that was clearly organised with a cover sheet containing the candidate's name and number and this was appreciated. The level of teacher annotation to indicate where and why the mark had been awarded differed from centre to centre. It is recommended good practice to follow the guidance on marking work, as indicated on the front cover of the mark scheme, which states 'If a candidate meets the requirements for a mark then tick the box next to that mark. It is beneficial to use the numbers on the left hand side of the tick boxes to cross-reference evidence on the candidate's work. Those centres that exhibited best practice made it considerably easier for the centre marks to be verified during moderation.

A wide range of different software applications and utilities were successfully used to solve the tasks this year. This included both freeware and proprietary packages. It should also be noted that some packages will make the solutions to the tasks considerably easier than others for a given task, and centres are reminded that the FAQs and Teachers' Guide provide suggestions for suitable software packages. The FAQs and Teachers' Guide also contain a list of skills that it would be beneficial to teach the candidates before the candidates tackle the tasks.

Many candidates continue to find questions that ask for annotated evidence to 'explain how' a particular feature or routine was implemented difficult. Candidates need to be encouraged to provide detailed explanations that demonstrate that they have a clear understanding of the solution that they have produced. This is often a key differentiator of good candidates. This particularly applies to annotating formulae within spreadsheets and queries and expressions within the database tasks.

### Comments on Individual Questions

- 1 a i Most candidates gained marks in providing evidence of the data types used.
- ii Most candidates gained marks for a printed customer form. Some candidates found that buttons on the form often didn't print if the form was printed out, but the buttons could generally be seen on further screen shots. If candidates find this occurs with the software they use then a screenshot is best provided to show the form in full.
- b i Most candidates gained marks for a printed products form. Some candidates found that buttons on the form often didn't print if the form was printed out, but the buttons could generally be seen on further screen shots. If candidates find this occurs with the software they use then a screenshot is best provided to show the form in full.
- ii Many candidates gained marks for showing the method they used to store and display pictures on the form. Some candidates lost marks for not demonstrating how the pictures were stored. Candidates need to make sure that they read and complete all parts of a task.
- iii Read only. Many candidates gained marks demonstrating how the supplier details were displayed and good annotations were given to explain how they were made read only. Some candidates lost marks by missing annotation about how the details were made read only. Candidates need to make sure that they read and complete all parts of a task.

- c i** Many candidates gained marks for correct relationships between tables. Some candidates did not clearly show the relationships they had created. In some software, it is not sufficient to show a diagram of the links between the tables when it only shows the links and not the nature of the relationships. Candidates must make sure if they are just showing the ERD that the relationships can clearly be identified.
  - ii** This part of the task clearly differentiated between candidates who could and those who could not explain complex calculations and expressions. Where underlying queries are used within expressions, it is important that candidates can identify them and explain them clearly. Marks were incorrectly awarded in places where candidates had not shown the underlying queries used.
- d i** Some candidates were able to create and print the stock reordering report and included all the correct details. Some candidates had requested details missing from this report.
  - ii** Candidates must clearly explain all queries and calculations used when creating a report. If the underlying queries are not shown and clearly explained, marks cannot be awarded. Some candidates were incorrectly awarded marks for this.
- e i** Some candidates were able to create and print the overdue payments report and included all the correct details. Some candidates had requested details missing from this report.
  - ii** Candidates must clearly explain all queries and calculations used when creating a report. If the underlying queries are not shown and clearly explained, marks cannot be awarded. Some candidates were incorrectly awarded marks for this.
- f i** Some candidates were able to create and print the invoices and included all the correct details. Some candidates had requested details missing from this report.
  - ii** Some candidates explained their automated routine very clearly, but some candidates clearly lacked detail and understanding in their explanation and evidence and were incorrectly awarded marks for this.
- g** Candidates must clearly explain all queries and calculations used when creating a report. If the underlying queries are not shown and clearly explained, marks cannot be awarded. Some candidates were incorrectly awarded marks for this.
- h i** Most candidates were able to create a main menu.
  - ii** Many candidates were able to explain how the menu appears automatically when the system is loaded.
  - ii** Most candidates produced good evidence to explain how one of the navigation elements was created.
- i** The quality of the user guides varied from very professional to inadequate. It was encouraging that most candidates appreciated that a user guide would be an external document and that they took the time and care required to produce a professional standard of presentation.
- 2 a i** Most candidates gained the mark to show their completed interface.
  - ii** Some candidates demonstrated how the interface was set up. Some candidates were incorrectly awarded marks for this as they did not show evidence of the cell links they used when setting up the elements.



- ii** Some candidates had clearly researched client-server technology and gave a clear flowchart. Some candidates' flowcharts did not give a clear demonstration of their understanding of client-server technology.
  
- e** The quality of testing continues to improve and most candidates did clearly specify webpages for the inputs and outputs. Some candidates are still missing full locations though, and marks were still being awarded incorrectly for this. Some candidates were also too vague in their tests: e.g. testing the navigation buttons in general rather than a specific navigation button from a certain page.

# G063 ICT Systems, Applications and Implications

## General Comments

The performance of candidates was broadly in line with previous sessions. Candidates had been prepared well on the whole, with most specification items being covered. Some candidates still lacked the breadth and depth of understanding needed for an A2 qualification.

As with previous sessions, the quality of some candidates hand writing was problematic in a number of cases. It should be stressed that if an answer can't be read, it will not be awarded marks.

## Comments on Individual Questions

- 1 Most candidates were able to correctly identify and describe two suitable methods from the specification a systems analyst could use. Poor examination technique meant that a small number of candidates gave interviews or questionnaires as answers, which weren't worthy of credit as they were already listed in the question.
- 2 Candidates with good examination technique, that understood that a comparison requires both online tutorials and video conferencing to be considered, scored well. A number of candidates failed to adequately compare the two technologies, simply listing points for both with no explicit comparison. Others simply listed points for one of the technologies. These types of answers were restricted to the lowest mark band.
- 3 Candidates that had studied this item of the specification scored well on this question. Some candidates appeared to confuse *perfective* and *corrective* maintenance. A small number of candidates could identify the maintenance types but were unable to explain why it would be required.
- 4 Most candidates were able to identify points regarding coverage within remote areas or no need for expensive / disruptive cabling infrastructure, but far less often were able to explain why this was the case.
- 5 Many candidates were able to explain impacts on television companies for this question. A small number were also able to offer a conclusion as needed in an evaluation question. Some candidates were not clear as to the distinction between broadcasters and digital television companies as producers. Whilst there is some overlap between the two, answers needed to focus on the creation of digital content within programmes and the impact this has on the companies producing such content.
- 6a As with the previous question, candidates were able to give positive and negative points to support the family's decision to create a home network. Many though, failed to conclude their evaluation. Some candidates did not answer in context, giving answers such as "a network manager is not needed"
- 6b Most candidates were able to describe two advantages of using a peer-to-peer network in the scenario. A small number relied on cheaper/easier answers, which unless suitably qualified were not worthy of credit.
- 7a The specification clearly defines three communication media: wireless, optical and cable. Candidates were often unaware of what media meant within the context of this question.

- 7b** Many candidates scored at least one mark, but found it harder to gain the second mark for an expansion. A number of candidates defined what high bandwidth meant without linking it to the given context and the impact that it would have.
- 8** Some candidates were able to answer this question well, explaining in detail why employees are asked to sign a code of conduct. Those that scored highly, gave explanations that detailed a range of advantages. It was noticeable that some candidates had clearly studied past papers and focussed on the 'ethical' dimension. It is essential that candidates have a broad understanding of the specification topics and do not rely on past papers as their only preparation for the examination.
- 9** Most candidates were able to give positive and negative points to support the company's decision to allow social networking applications. As with previous evaluation questions, many failed to conclude their evaluation, preventing them from scoring full marks. Some candidates focussed on the positives to the employees of using social media but did not consider the negatives, again restricting the marks awarded.
- 10** Most candidates scored well on this question, describing a range of factors the company should consider when deciding whether or not to upgrade the database system.
- 11a** Most candidates scored well on this question, identifying suitable controls and giving a reason why it would be of use. Poor examination technique meant that a number of candidates gave text boxes and buttons for their answer. As these controls were in the question, they were not worthy of credit.
- 11b** Many candidates scored well on this question. There was evidence of a lack of technical vocabulary in some responses – e.g. a number of candidates said bigger text rather than specifying a larger font size – and at this level precise technical vocabulary is to be expected.
- 11c** Most candidates scored at least one mark for this question. Examination technique meant that some candidates gave short responses which, whilst correct, were not in sufficient detail for all marks for the question to be awarded. Some candidates simply gave examples – green = good, red = bad – without explaining the underlying concepts behind this.
- 11d** Again, many candidates were showing some knowledge of the topic, but fewer were able to score full marks by giving a detailed explanation that made it clear that they had four linked points.
- 12** Whilst most candidates were able to score some marks for this question, few appeared to have an in-depth understanding of what a flow chart was. Some candidates drew data flow diagrams, others simply re-wrote the question with each item in a box. Whilst some variation of symbols is expected, at the very least, candidates should be using different symbols to represent start/stop, process, decisions and input/output. In the vast majority of cases, this was not so.
- 13** As a synoptic question, it was hoped that candidates would have a good understanding of relational databases and normalisation, especially as many candidates would have produced database related coursework for G064. This is a technical subject and it was clear that technical knowledge was lacking for a significant number of candidates.

- 14** The majority of candidates scored well on this question. Many candidates gave examples in their response, which is best practice in this case.
- 15** Many candidates were able to describe direct and parallel changeover. Poor examination technique again meant that some candidates failed to make clear comparisons between the two.
- 16ai** Some candidates were able to describe two advantages of using horizontal partitioning in this case. For many though, this topic was poorly learnt with candidates confusing horizontal and vertical partitioning. Where candidates did have some idea of what horizontal partitioning was, they failed to make it clear within the context of the question why it would be advantageous.
- 16aii** Many candidates could name an alternative method of partitioning but fewer could describe it. The most successful candidates often described duplicated databases. Vertical partitioning was often misunderstood.
- 16b** Some candidates explained the technical details regarding protocols, error checking, handshaking etc. and scored well in this question. Many though, simply recited answers from last years paper regarding professional standards and completely missed the point that hardware standards were being addressed.
- 17** This question was answered well by many candidates. They correctly described technological and accommodation resources. A small number described human resources, which was not worthy of credit as it was part of the question.
- 18i** The majority of candidates were able to identify a change the UK government may introduce that would affect the company.
- 18ii** Most candidates were able to score marks for explaining the impact that the change would have on the company. Some candidates were not able to sufficiently extend their line of reasoning to allow full marks to be awarded.
- 19** It was pleasing to see more candidates scoring more highly than in previous sessions. It was clear that candidates are being better prepared to write about fewer points but in more detail, showing a logical line of reasoning, giving examples, and explaining the impacts and consequences of the development for the point given.

## G064 ICT Project

### General Comments

Most centres are annotating the mark sheets, which is very useful during the moderation process. An example of best practice is to explain why the mark(s) have been awarded, along with page numbers to reference where this evidence can be located. This is especially useful in the instances where candidate evidence is poorly structured.

### Comments on Individual Questions

**a (i).** Nearly all candidates were awarded full marks for this section.

**a (ii).** Candidates were able to plan a detailed investigation into the current system and how it operates. A number of candidates looked to discuss the new system requirements in the first investigation, which is not necessary at this stage. The current system investigation enables candidates to gain a thorough understanding of the system that is in place at present and the problems that the client is facing; along with the opportunity to discuss the potential impact these issues may have.

A second investigation should be developed, which will enable the candidates to gather all the required information they need to develop their system to the needs of the client.

**a (iii).** Most candidates developed a specific set of requirements that are measurable. They were also able to discuss three different alternative methods that could be used to develop the solution in relation to each of these requirements. The hardware and software specifications sometimes lacked sufficient detail to be awarded full marks. Candidates must ensure that all of the hardware and software components required by the system are listed and discussed in relation to the requirements specification.

**b (i).** Many candidates were able to produce a detailed set of designs that clearly enabled the client to visualise and understand how the developed system would look and operate. For top marks, candidates must ensure that their designs are in sufficient detail, so that a third party may successfully recreate them. This is also applicable for the test plans, which must have specific test data and expected outcomes to be awarded full marks. The user test plan is also expected to be present within the design section, especially when full marks are being awarded.

**b (ii).** The majority of candidates focused solely on the system development aspect for their project plans, which is pleasing to see, rather than the whole project. For 2 marks to be awarded, project plans should cover all elements of the system development, with each being listed as a separate task. Predecessor and successor tasks should also be taken into consideration and included.

**c (i).** Many candidates developed complex non-linear systems, using a range of methods including spreadsheets, databases and websites. A few candidates developed projects that are classed as linear and these were frequently over-marked by centres. For any type of project, centres must ensure that they follow the non-linear processing requirements if candidates are to be awarded marks from the middle and top mark bands. To achieve this, data must be processed in two different ways for a system to be classed as non-linear. To be graded in the top mark band, candidates need to have solved the problem faced by the client, with a fully working system that meets the requirements specification.

The processing was frequently over-marked by centres. Candidates should show how one element of their system that processes data was firstly developed and then show that it is working as expected; using sample data to show the correct flow of data throughout the system. If someone were to then recreate this element, they would be able to judge whether it is working as expected, through the sample data that has been used.

The evidence showing the system HCI was completed to a good standard. Candidates should discuss how any relevant requirements have been met, along with evidence demonstrating different aspects of the developed system and how the HCI has been amended accordingly.

- c (ii).** The description of training required was frequently written in detail and the plans clearly showed that candidates have thought about the training needs of their client. The data transfer sometimes needed further expansion, with regards to the volume of data needing to be transferred from the old system to the new. Nearly all candidates were able to provide a detailed comparison of the different changeover methods available. Fewer were able to discuss each method in relation to the organisation and how each would impact it, which is necessary for 2 marks to be awarded.
- d.** User guides were well presented; many containing excellent features and were marked quite accurately. Some guides did not cover all elements of the system that had been developed and these should therefore not have been awarded marks in the top mark band. Most candidates provided good examples of on-screen help, but for candidates to be awarded marks in the top mark band, there needs to be an on-screen guide to the user included, in addition to the on-screen help. Simply providing an electronic hyperlink to the full user guide is not sufficient and on-screen guidance should be included within the system and documented.
- e.** Many candidates provided a detailed description explaining how each of the requirements had been met. Where elements had been unsuccessful, they had then discussed why this occurred and what could be done to rectify the issue. Candidates had also provided a range of extensions that could be added to the system. Many did not describe exactly how they would be implemented within the system and therefore were not awarded the full 2 marks.

The comparison of the software development and project plan was attempted by most candidates, with them successfully identifying differences between the two and a discussion into why this had occurred.

- f.** Most reports were easily navigable and structured in a logical order, with candidates providing a detailed contents page and all pages numbered. The majority of candidates also provided a comprehensive log of events and this is required for candidates to be awarded full marks for this section.

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